TERSITY OF ILLINOIS AT
THE MEDICAL CENTER, CHICAGO

COLLEGE OF EDICINE

1969-1971 University of Illinois Bulletin

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[&]quot;The College of Medicine exists to promote improvement in the health of the public, and all of its varied activities are so dedicated." . . . From the Goals.

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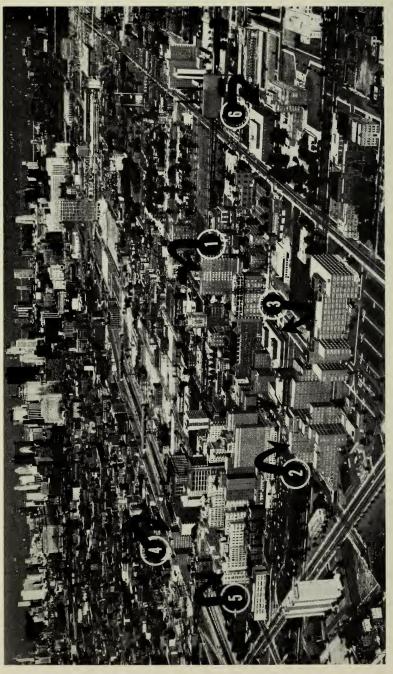
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Aerial View of the University of Illinois Medical Center Campus at Chicago.

3. Chicago Illini Union 4. Presbyterian-St. Luke's 1. University of Illinois Hospital 2. West Side Veterans Administration Hospital 5. Cook County Hospital 6. Illinois Eye and Ear Infirmary Legend: Hospital

THE UNIVERSITY OF ILLINOIS

The University of Illinois was chartered in 1867 upon the foundation laid by the enactment in 1862 of the Morrill Land Grant College Act which provided 480,000 acres of land from the sale of which funds for the creation and operation of the University were derived.

The University opened on March 2, 1868, as the Illinois Industrial University. Its name was changed to "The University of Illinois" in 1885.

From its modest beginnings, the University has steadily grown to its present distinguished position among the great universities of the United States and the world. The main campus and administrative offices are located in Urbana-Champaign, 128 miles south of Chicago. Two major campuses are located in Chicago's near west side in close proximity to each other.

The Colleges of Agriculture, Commerce and Business Administration, Communications, Education, Engineering, Fine and Applied Arts, Law, Liberal Arts and Sciences, Physical Education, and Veterinary Medicine are located at the Urbana-Champaign campus. Advanced work is offered by the Graduate College, the Institute of Labor and Industrial Relations, the Jane Addams Graduate School of Social Work, and the Graduate School of Library Science. There is also a Division of University Extension and numerous bureaus, institutes and schools, such as the Institute of Aviation.

The most recently opened campus of the University is the Chicago Circle facility, built on 107 acres of slum-cleared land. This dynamic new campus is expected to provide educational opportunities for 20,000 students by 1970. Degree curricula are provided by the Colleges of Liberal Arts and Sciences, Business Administration, Education (including the School of Physical Education), Engineering, and Architecture and Art.

One mile west of the Chicago Circle Campus in the midst of the 305-acre Medical Center District are the University's teaching, research, and service facilities in the health sciences.

The Colleges of Dentistry, Medicine (including the School of Associated Medical Sciences), Nursing, Pharmacy, and a Graduate College are located at the Medical Center Campus. The University of Illinois Hospital, the closely related Illinois Eye and Ear Infirmary, the Library of Medical Sciences, the Division of Services for Crippled Children, the Medical Research Laboratory, and the Research Resources Laboratory are also an integral part of the campus.

The Library is one of the largest and most complete health science libraries in the United States. The Graduate College offers degree programs in the biological and clinical sciences.



THE COLLEGE OF MEDICINE

THE COLLEGE OF MEDICINE

The College of Medicine of the University of Illinois is located on the west side of Chicago in an area known at the West Side Medical Center District. The work of the College, together with the related work in the Colleges of Dentistry, Pharmacy, Nursing, and the Graduate College, is centralized in the laboratory building facing on Polk, Wood, and Wolcott Streets. The campus, which is about two miles west of the main business district of Chicago, can be reached conveniently by elevated train, bus, or automobile.

The University buildings contain the administrative offices of the College, the library, lecture rooms, classrooms and laboratories for classwork, numerous small laboratories for individual research, and the clinics and hospitals of the University of Illinois Hospital. The Illinois Eye and Ear Infirmary, located near the campus, is operated jointly by the University and the Illinois Department of Children and Family Services. Close to the campus are the Presbyterian-St. Luke's Hospital, Cook County Hospital, Chicago State Tuberculosis Sanitarium, West Side Veterans Administration Hospital, Illinois State Psychiatric Institute, and the Illinois State Pediatric Institute, all of which are used for student teaching. Hines Veterans Administration Hospital at some distance from the campus offers a wide range of learning opportunities.

The College of Medicine was originally an independent institution. It opened October 14, 1881, as the College of Physicians and Surgeons of Chicago. It became affiliated with the University of Illinois under a lease in 1897, and in 1900 its name was changed to the College of Medicine of the University of Illinois. Not until 1913, however, did it become an integral part of the University. During most of its early history it was located on Harrison Street in the area now forming the Louis Pasteur Park. In 1931 the College was moved to its present quarters in the west unit of the Dentistry-Medicine-Pharmacy Building. In 1941 the Presbyterian Hospital (now merged with St. Luke's Hospital) became affiliated with the University, and members of the staff of Rush Medical College were incorporated into the faculty of the College of Medicine.

Each of the colleges at the Medical Center is administered in its internal affairs by its dean and faculty. The Chancellor at the Medical Center Campus, under the direction of the President, serves as the chief administrative officer.

THE ACADEMIC POSTURE AND GOALS OF THE UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE

The College of Medicine exists to promote improvement in the health of the public, and all of its varied activities are so dedicated. In keeping with its aim of leadership, the College of Medicine has as fundamental obligations: the attraction of a superior faculty and student body, unstinting support of research, recognition and appreciation of the gifted teacher, and, above all, provision of an intellectual climate where students and scholars at all levels may thrive.

The College of Medicine is committed to the education of physicians and other health personnel motivated toward and capable of a high standard of professional service; therefore, it must be a repository of existing knowledge, the source of new knowledge, and the driving force in the dissemination and utilization of both. It is recognized that there are various types of professional service rendered by physicians, such as family practice, specialty practice, research, teaching, preventive medicine, and administration. The undergraduate student should have the opportunity to become familiar with fundamental aspects of several professional roles and should be exposed to the intellectual stimulation inherent in each; so that he may choose that best suited to his own goals and abilities; so that he will have an adequate foundation for further training and growth toward his selected role, and so that he will better be able to integrate his professional activities with those who have assumed other roles. The College's concern for its student cannot end with his graduation, but should continue throughout his professional career by means of programs of postgraduate medical education. Undergraduate experience should have inculcated the habits and desires for continued self-education.

The College of Medicine has the responsibility of searching for the superior student, attracting him to this College, and providing him with stimulation and opportunities for his maximum development. The roles of student and faculty must necessarily overlap as both are needed to contribute to the educational endeavor and the intellectual environment.

The College should play a leading role in the extension of medical knowledge, and hence must attract superior teachers and investigators to its faculty, stimulate an interest in research among its students and faculty, and provide all possible support and recognition of such research efforts.

The College should be ever mindful of the need to deliver to the community those other services which are uniquely in its province. Inquiry into the health needs of the citizens of our state and into ways and means of providing for these through programs of health care must remain essential obligations of the College.

Inherent in the total program is constant self-examination and a willingness to change. While the College of Medicine continues its leadership in the achievement of these goals, it must remain responsive to the changing social and intellectual environments in which it exists.

REQUIREMENTS FOR ADMISSION

Qualifications

GENERAL

A primary responsibility of the University of Illinois College of Medicine is to educate physicians. The College endeavors to fulfill this responsibility by selecting applicants who in the judgment of the Committee on Admissions demonstrate best the academic achievement, emotional stability and maturity, integrity, and motivation judged necessary for the successful study and practice of medicine. The Committee on Admissions is interested in observing evidence of a capacity for mature and independent scholarship and in discouraging rigid patterns of course work. Therefore, the Committee considers the quality of work of each applicant in all areas, the breadth of education, and the achievement in advanced courses. The Committee seeks evidence of academic projects or work experience that demonstrate the possession by the applicant of imagination, initiative, and creativity. All students are considered on the basis of individual qualification without regard to race, color, creed, or sex.

Specific Requirements

Students seeking admission to the College of Medicine must:

- 1. Demonstrate in addition to academic achievement, the emotional maturity, the integrity, and the motivation judged necessary for the successful study and practice of medicine.
- 2. Have received a baccalaureate degree (ordinarily A.B. or B.S.) from a recognized college or university or be eligible to receive such a degree upon satisfactory completion of the curriculum of the first year in the College of Medicine. Students from colleges that do not grant a degree after the satisfactory completion of the first year of medicine may be considered for admission after satisfactory completion of three years (not less than ninety semester hours) of college work if such students are

eligible for full senior status (i.e., eligibility to receive a baccalaureate degree after completion of the senior year) in that college.

The undergraduate program must include as a minimum:

Biology. A full year's course at college level in biology (usually animal) with appropriate laboratory work. This course should emphasize the cellular and molecular aspects as well as the structure and function of living organisms.

Chemistry. Two years of college chemistry divided about equally between organic and inorganic. Laboratory work and familiarity with quantitative techniques are important aspects of this experience.

Physics. One full year of college credit in physics (with laboratory experience).

The college major should be in the field that the student finds most interesting. If he chooses a division of science, he should try to get as broad an experience in the humanities as feasible. If he chooses the humanities, he should be certain to include the minimum science requirements but not necessarily limit himself to these minima. The College of

Central Courtyard of the Medical Center Campus.



Medicine would expect some studies but not require specific sequences in English and foreign languages. Mathematics through calculus is recommended. Psychology and sociology are examples of studies that are of value in the understanding of behavior and will complement studies both in the sciences and humanities. The applicant must have obtained a satisfactory score on the Medical College Admission Test.

Grade Requirements. A grade-point average is computed for each applicant to facilitate evaluation of academic achievement.*

The grade-point average is computed on the basis of grades recorded in the Office of Admissions and Records at the time the application is acted upon by the Committee on Admissions and is computed by using all grades earned including graduate courses but excluding:

- 1. Grades earned in such activities as physical education, band, etc.
- 2. Graduate seminars and research courses.
- 3. Professional technical or vocational courses.

Medical College Admission Test. All candidates are required to take the Medical College Admission Test recommended and approved by the Association of American Medical Colleges.

Physical Examination. Each applicant who is tentatively accepted must have a physical examination by a physician on the staff of the University Health Service on this campus. A chest X-ray is also taken at this time.

It is strongly urged that each applicant, after acceptance, visit his physician and dentist in order to attend to such items as dental repairs and fitting for glasses. After school has begun, the student finds it difficult to have these essential things carried out without loss of time from classes. It is also required that each student have a smallpox vaccination and immunizations for typhoid fever, tetanus, poliomyelitis, and diphtheria within a five-year period prior to registration, and his physician must certify the dates on which these procedures were performed.

A tuberculin test is performed on all medical students during the first year of medical school, and subsequent tuberculin tests are recommended

^{*} In a system of four passing grades, A, B, C, and D, the grades are translated as follows: A=5; B=4; C=3; D=2. Where there are more or fewer than four passing grades, the computation is adjusted to make the same level of accomplishment apply. The individual grades are multiplied by the respective number of semester hours which each represents, and the sum of these products is divided by the total number of semester hours taken. In the case of repeated courses both grades earned are counted in computing the average.

if indicated. All students are urged to have annual chest X-rays during their years in medical school, and a chest X-ray is required before graduation.

Other Considerations

Age Preference. Except under unusual circumstances, applicants whose ages range from nineteen to twenty-seven years are given preference to those who may be older or younger.

Preference to Illinois Residents. In considering applications for admission to the College of Medicine, the Committee on Admissions gives preference to candidates who are residents of Illinois. Nonresidents may be accepted in numbers up to 10 per cent of any incoming class. Places in the first-year class to be filled by residents of Illinois are assigned to applicants from Cook County and to applicants from outside Cook County in the proportion which each area bears to the total population of the state according to the latest federal census, provided that if at any time the places available for either area are not filled, the remaining places may be assigned to applicants from the other area. On this basis at the present time, the places in the first-year class assigned to Illinois residents are distributed between applicants from Cook County and applicants from counties other than Cook in approximately equal numbers.

Other Information

Freedom. The academic community at the University of Illinois College of Medicine is firmly dedicated to the goals of preserving and improving the health of the community, state, and nation. In this context the faculty, students, and staff have long functioned on the basis of mutual respect for the rights of others. The right of open and peaceful dissent from existing policies and practices continues to be freely available at the University of Illinois College of Medicine. The right of all members of the academic community to explore and discuss questions which interest them, to express opinions publicly and privately, and to join together to demonstrate their concern by orderly means is fully respected. Because the academic community itself is weakened when these principles are not adhered to, disruptive or coercive action will not be condoned. Persons engaging in coercive or disruptive actions shall be subject to disciplinary action within the College of Medicine, and to charges of violation of civil law, if appropriate.

Reorganization and Expansion of the College of Medicine. On July

12, 1969, the Board of Trustees of the University of Illinois approved a plan for reorganization and expansion of the College of Medicine. These plans include a massive program for expansion of professional education in medicine at three levels: the curriculum for the M.D. degree, internship and residency training, and continuing education of physicians.

Funds for the initial implementation of these plans during 1969-70 have been approved by the Board of Higher Education and appropriated by the General Assembly.

The College will be reorganized in the following fashion:

- 1. The establishment of several semiautonomous "schools" of moderate size within the College of Medicine, each with its own dean, faculty, and system of internal governance.
- 2. The title of the Dean of the College of Medicine will be changed to "Executive Dean." His internal administrative relationships will be primarily with deans of schools rather than with executive officers of departments. As Executive Dean, he will continue to report to the Chancellor for the Medical Center campus.
- 3. The College of Medicine will adapt its committee structure and other aspects of internal governance so as to have the "school" replace the "department" as the primary organizational unit at college level. Appropriate representation on College committees and other Collegewide agencies will be assured to the several schools.
- 4. Each school will have a dean—who will report to the Executive Dean of the College—and its own faculty, committees, departments, and student body. It will conduct its own educational, research, and service programs with a significant degree of autonomy. Each school will be encouraged to develop programs responsive to the special interests and needs of its faculty, student body, and public.

Two types of schools will be established: (a) Schools of Basic Medical Sciences; (b) Schools of Clinical Medicine.

5. The Schools of Basic Medical Sciences will promote basic knowledge and the understanding of sciences relevant to preparation for careers in dentistry, medicine, nursing, pharmacy, and associated medical fields, and stimulate and support an interest and research among undergraduate students, graduate students, and faculty. It is anticipated that the typical curriculum for medical students will be one year.

The first School of Basic Medical Sciences will be established at the Medical Center campus and will comprise the present Departments of Anatomy, Biological Chemistry, Microbiology, Pathology, Pharmacology, and Physiology.

6. Schools of Clinical Medicine will be established to offer to students transferring from the Schools of Basic Medical Sciences a three-year curriculum for completing the work for the M.D. degree. One of the clinical schools will include the regular faculty and departments of the clinical divisions of the present College of Medicine that are based at the University of Illinois Hospital. The latter and certain affiliated hospitals will provide the primary training and research facilities used by this school.

One additional school will be established during 1969-70 in the Chicago area, with faculty and training facilities to be provided primarily from the staff or staffs of affiliated hospitals.

As resources and enrollment expand, and as other circumstances might justify, it is anticipated that additional clinical schools will be established in regions outside Chicago, including Peoria and Rockford. These schools will emerge from "clinical centers."

7. The College of Medicine will create regional clinical centers which will ultimately conduct the clinical portion of training for the M.D. degree, internship-residency training, and continuing education for physicians. The order of development of these three functions, however, is the reverse of that just listed; "undergraduate" medical education will not be offered until the necessary resources of faculty and facilities have been developed through programs of continuing education and internship-residency training.

Preliminary planning has already been done toward the establishment of clinical centers in Rockford and Peoria during 1969-70.

Renewing Applications. An applicant who has been accepted for admission but fails to enroll, and who wishes to enter in a subsequent year, must reapply for admission as a new applicant and must meet all the requirements in force at the time of the new application.

Admission with Advanced Standing. It is possible to admit a limited number of transfer students to the third-year class in the College of Medicine. In considering applications, the Committee on Admissions gives preference to the candidates who present the strongest scholastic records. Except in unusual cases, no student who is on probation or who has been dropped for any reason from a medical school is considered for admission.

Bachelor's Degree. The College of Liberal Arts and Sciences on both the Urbana and Chicago Circle campuses accepts a total of thirty-two hours of credit from the first year at the University's College of Medicine to enable the student to complete the requirements for a bachelor's degree as well as a medical degree in seven rather than the usual eight years. This program requires that (1) the student be in good standing in the College of Medicine; (2) work taken at the College of Medicine does not duplicate work taken in premedical courses; (3) the student complete the third or last year of premedical study, consisting of at least thirty hours of credit, at Urbana or Chicago Circle; and (4) the student meets all requirements for graduation from the College of Liberal Arts and Sciences.

The following are the College of Medicine courses accepted by the College of Liberal Arts and Sciences and the majors to which they apply:

- 1. Biochemistry 301, 302, and 303, to be applied to a chemistry major or for elective credit at the upper-division level for a total of six semester hours.
- 2. Physiology 301, 302, and 303, to be applied to a physiology and zoology major or for elective credit at the upper-division level for a total of ten semester hours.
- 3. Histology, to be applied to a zoology major or as elective credit at the upper-division level for a total of eight semester hours.
- 4. Gross Anatomy, to be applied to a zoology major or for elective credit at the upper-division level for a total of eight semester hours.

Application Instructions

Applications for admission to the College of Medicine should be addressed to the Office of Admissions and Records, P.O. Box 6998, Chicago, Illinois 60680. Applications must be received between July 1 and December 31 of the year prior to enrollment. A \$15.00 application fee must accompany the application. In addition to the completed application form, the applicant is responsible for seeing that the following required credentials are sent directly from their original sources to the Office of Admissions:

- 1. Official transcripts from each college attended.
- 2. Results of the Medical College Admission Test.

The applicant will be requested to procure recommendations and a report of health evaluation. Although a personal interview usually is required of each accepted student, the Committee on Admissions reserves the right to take favorable or unfavorable action on the basis of materials submitted without inviting the applicant to appear for an interview. An

interview will be arranged for any applicant who requests it. Although residents of Illinois are given preference, applications from nonresidents of the state are invited. All applications when completed are reviewed individually by the Committee on Admissions and the best qualified applicants are invited to register.

Early Decision Plan. This plan is an optional procedure by which an applicant may request and receive an early decision regarding his application if the University of Illinois College of Medicine is his first choice of medical schools. Students participating in this plan must submit their applications and all credenitals no later than September 1. A decision will be made concerning each applicant by September 30 so that candidates who are not offered places in the class have adequate time to seek acceptance at other medical schools.

Only a small percentage of each class is accepted by the Early Decision Plan. Hence applicants who do not wish to participate in the plan have ample opportunity to be considered in the regular competition for the majority of the places in each class.

Detailed information concerning the Early Decision Plan is included with the application for admission materials.

Deposits. Each applicant who is assigned a place in any class in the College of Medicine is required to make a deposit of \$60.00 by March 1 or within two weeks of the date of notification, if notified after that date that he will be admitted. This deposit is applied on fees assessed against him at the time of registration. Failure to pay this deposit within the specified time subjects the applicant to forfeiture of his place. Thirty dollars of the deposit is returned if the applicant notifies the Office of Admissions and Records, at least thirty days before the time for registration, that he will not be able to enter. The Director of Admissions and Records is authorized to make refunds after that time when, in his judgment, the circumstances so justify.

FEES AND EXPENSES

All fees are payable in full when the student registers unless the installment plan of payment is elected. The Board of Trustees of the University reserves the right to change the fees at any time through publication in the annual announcements.

A schedule of fees on an annual basis for regular full-time students

in the College of Medicine is listed below. Fees are payable quarterly at the time of registration.

	FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR	
	Ill.	Non-Ill.	Ill.	Non-Ill.	Ill.	Non-Ill.	Ill.	Non-Ill.
Tuition Fee	\$246.00	\$ 852.00	\$246.00	\$ 852.00	\$246.00	\$ 852.00	\$328.00	\$1136.00
Service Fee	381.00	381.00	381.00	381.00	381.00	381.00	508.00	508.00
Hospital-Medical- Surgical Insur-								
ance Fee	21.00	21.00	21.00	21.00	21.00	21.00	28.00	28.00
Total	\$648.00	\$1254.00	\$648.00	\$1254.00	\$648.00	\$1254.00	\$864.00	\$1672.00

Late Registration Fee. Former students who register after the regular registration days in any quarter pay a late registration fee of \$15.00.

Special Examination Fee. For any special examination to remove a failure, the fee is \$10.00.

Transcript Fee. Each student who has paid all his University fees is entitled to receive without charge one transcript of his record. For each additional transcript the fee is \$1.00.

Installment Fee. Students electing the installment plan for payment of tuition and fees are required to pay a service charge of \$2.00. The service charge, not less than one-third of the current quarter's fees, and all fees and charges from previous terms must be paid on the day of registration. Failure to make payment of fees within the time limits cancels at once the privilege of attending classes. Registration is not completed until fees are paid in full, and no credit is recorded for classwork completed unless all fees and other charges have been paid in full.

Refunds. If a student withdraws within ten days after the beginning of instruction, refund is made of the full amount of tuition and fees assessed except for a non-refundable charge of \$31.00. After the first ten days but within the first half of the quarter, one-half of the total amount of the tuition and fees assessed which remains after deduction of the above mentioned amount is refunded.

Expenses

From \$90.00 to \$125.00 a month may be regarded as adequate for the ordinary living expenses of a student in Chicago, exclusive of books, clothing, railroad fare, and miscellaneous needs. The expense of books varies between \$50.00 and \$100.00 a year. Board and room in the Student Residence Hall is \$915.00 and up depending upon the type of accommodations. Each student at the beginning of the first year is required to provide himself with a satisfactory microscope. A stethescope, a haemocytometer, and an ophthalmoscope are required at the beginning

of the second year. Members of the faculty check the condition of the microscopes upon request. Microscopes may be procured from the Illini Bookstore on a rental basis.

REQUIREMENTS FOR GRADUATION

Doctor of Medicine. The degree of Doctor of Medicine is awarded to those candidates who have successfully completed four years of an approved undergraduate educational program in medicine of which at least the last year must have been at the University of Illinois and who have demonstrated to the faculty of the College of Medicine a level of academic accomplishment, emotional maturity and stability, and integrity requisite to the continued study and practice of medicine.

Degree candidates must meet general University requirements with respect to scholastic achievement and the discharge of financial obligations.

Honors

A student who complies with the requirements for graduation, and who attains in all work presented for the degree the average grade specified, may be recommended by the University Senate for the honors stated: for an average grade of not less than 4.35, graduation with honors; for an average grade of not less than 4.75, graduation with high honors. The honors awarded are noted on the diploma and in the Commencement Program.



INSTRUCTIONAL PROGRAM

In its determination to provide the students of the College of Medicine with the best possible educational opportunity, the faculty has committed itself to a carefully designed and all-inclusive study of its educational programs. The faculty Committee on Instruction is charged with the responsibility to constantly review the program of instruction and to make recommendations for improvement. An Office of Research in Medical Education has been created to lend continuing direction and implementation to the study.

The program is designed to place increasingly upon the student the responsibility for learning and to encourage to the fullest the development of intellectual curiosity. In all years of study from the first through the fourth, the program is designed to teach the scientific method, to promote learning by problem-solving, and to develop the skills and attitudes of a mature physician.

During the first two years the curriculum provides for the study of the sciences that are basic to medicine (anatomy, biochemistry, microbiology, pathology, pharmacology, physiology, genetics, behavioral sciences, preventive medicine and community health). Throughout this period emphasis is placed on correlation and integration of subject matter, and an opportunity is provided to the student to learn much concerning physical and emotional growth and development of human beings. Increasingly in the sophomore year, the student acquires familiarity with the methods and techniques of evaluating patients and the disorders which affect them.

The third and fourth years are devoted principally to the study of clinical subjects. The program of teaching and learning is conducted in clinical clerkships in the wards and outpatient departments of the University hospitals and the affiliated teaching hospitals. The clerkships provide an opportunity for the student to examine, observe, and evaluate patients under close supervision and to correlate knowledge and understanding of the basic sciences with the clinical practice of medicine. Supplemental information is provided by means of lectures, conferences, and library research.

A. Required Programs

The required courses and clerkships are recorded in the accompanying tables. The clinical lecture program, and the alternate quarter programs are of particular interest and deserve further comment.

THE CLINICAL LECTURE PROGRAM

Beginning in the spring quarter of the second year, under the title Introduction to Medicine, an interdisciplinary lecture series is offered. The series continues through the summer, fall, and winter quarters of the first clinical year. The lectures are arranged by the Committee on Instruction to make the most efficient use of both faculty and student time and to capitalize maximally on faculty talents. The intent is to bring together in the series the viewpoints of various disciplines toward a content area, e.g., trauma or infectious disease. All clinical departments will participate in this program, and their contributions are noted in the Courses of Instruction section of this catalog.

CLINICAL CURRICULUM

The final two years include seven quarters work: one quarter each in pediatrics, medicine, outpatient (including medicine, neurology, and



psychiatry), surgery, and one quarter which includes eight or nine weeks of obstetrics and gynecology and three weeks of orthopaedics. The remaining two required quarters will be programmed according to the educational desires of the student. If the student elects to use his free vacation time for educational pursuit, nine successive months are available to him in which to engage in a learning experience of his own choosing with the sponsorship of an academic department. This type of opportunity constitutes the elective or alternate quarter program of the clinical years.

EXAMINATIONS

The College of Medicine utilizes a comprehensive examination system for evaluating student performance. All written and practical examinations used for purposes of promotion and graduation are under the control of an interdepartmental faculty committee. The results of these examinations and instructors' reports are used by a faculty committee on promotions to determine fitness for promotion and graduation. Because emotional maturity and stability and personal integrity are considered so important, reports by instructors describing habits and attitudes are carefully weighed in judging fitness for promotion or graduation.

Summary of Preclinical Curriculum

Cubina	First Quarter		Second Quarter		Third Quarter		Total Clock
Subjects	Didactic	Laboratory	Didactic	Laboratory	Didactic	Laboratory	Hours
FIRST YEAR Anatomy (Gross)	22 22 0 44 8 0 0 38 0 11 	66 44 0 0 0 0 0 0 0	20 20 0 40 8 0 0 35 0	60 44 0 0 0 0 0 0 0 0	0 0 20 0 8 30 30 30 30	0 0 40 50 0 0 0 40	168 130 60 134 24 30 30 143 30 31
SECOND YEAR Examination of the Patient Introduction to Medicine Microbiology. Pathology. Pharmacology. Preventive Medicine and Community Health. Psychiatry Total.	11 0 33 44 0	33 0 44 77 0 0 0 0	10 0 30 30 40 10 0 	30 0 40 70 30 0 0 0	10 50 0 30 30 10 10 10	30 0 0 70 20 0 0	124 50 147 321 120 31 21

B. Elective Opportunities — Not for Credit

Several kinds of elective opportunities are offered to students in the College of Medicine in addition to the regular curriculum. These opportunities, which are described in detail in a brochure distributed annually to medical students including entering freshmen, may be in research or informal course work in a variety of areas.

RESEARCH

Virtually every member of the faculty at the College of Medicine and its affiliated institutions is engaged in original research, either in areas related to the basic medical sciences or to the clinical sciences. A list of about 300 such research programs is provided in a separate brochure. Any medical student who is interested in engaging in research during the school year, during a summer vacation, or during an alternate quarter is encouraged to contact directly individual staff members. The areas of research interest are widely diversified and range from molecular biology to behavioral sciences. A student may gain a short research experience for only a quarter from some faculty members, or may expand his research experiences as a basis for a graduate thesis. A number of departments (Anatomy, Biological Chemistry, Medicine, Microbiology, Pathology, Pharmacology, Physiology, Radiology, Surgery) offer the M.S. or Ph.D. degree and permit medical students to register for one of these degrees while simultaneously engaging in the medical curriculum. Whichever choice the student makes with respect to performing original research, the experiences gained from working closely with an individual faculty member constitute an important adjunct to more formal medical education.

ELECTIVE COURSES

In addition to the courses required in the College of Medicine, formal elective courses are offered by individual departments. These courses are not for credit and are designed to meet specific needs of individual students.

It is the hope of the faculty of the College of Medicine that its students will be able to find among the various elective opportunities some program or programs which will provide an additional dimension to the more traditional experiences of attending medical school. Further information regarding these courses may be obtained from the Office of the Dean. Registration and completion of the course will be noted on the

student's official transcript. An individual description of each appears by department in the Courses of Instruction section of this catalog.

BIOLOGICAL CHEMISTRY

- 360. Special Problems in Biochemistry.
- 362. Clinical Biochemistry.

DERMATOLOGY

- 360. The Clinical Physiology of the Skin.
- 361. Examination of the Dermatologic Patient.
- 362. Histopathology of the Skin.
- 363. Seminars in Dermatology.
- 364. Ultrastructure of Normal Human Skin,

MEDICINE

- 360. An Elementary Survey of Radiobiology.
- 361. Introductory Computer Programming with Medical and Biostatistical Application.
- 362. Clinical Physiology of the Gastrointestinal Tract.
- 365. Advanced and Applied Respiratory Physiology.
- 366. Introduction to Electrocardiography.

OBSTETRICS AND GYNECOLOGY

- 360. Methods of Conception Control.
- 361. Obstetric and Gynecologic Endocrinology.
- 362. Gynecologic Oncology.
- 363. Immunology of Reproduction.
- 364. Electron Microscopy of Female Reproductive Tract.
- 365. Morphology and Physiology of the Placenta.
- 366. Topics in the Biology of Reproduction.
- 367. Family and Marriage.

OTOLARYNGOLOGY

360. Correlation Clinic in Communication Problems.

PHYSIOLOGY

360. Bioastronautics.

PSYCHIATRY

- 360. Advanced Course in Growth, Development, and Deviations of the Personality.
- 361. Child Development Among the Urban Poor: Psychological and Social Aspects of the Development of the Urban Disadvantaged Child.
- 362. Psychology of Perception and Distortion.

SURGERY

- 361. Surgical and Clinical Anatomy.
- 491. Surgical Seminar.

C. James Scholar Program for Independent Study

The program for independent study has been created to provide independent scholars with an opportunity (1) to achieve the basic educational objectives of the medical school at their own pace, utilizing those physical and intellectual resources of the institution that can assist them to achieve this goal in the most efficient manner; (2) to probe more deeply and to acquire greater competence in some facet of the health sciences than could be accomplished in the more structured standard curriculum. A student's acceptance of such opportunity must be accompanied by his clear acknowledgment of a responsibility to achieve more than might be expected of his peers.

Each scholar will be held responsible for achievement of departmental and institutional objectives, but will not be expected to adhere to the standard pattern of instruction although he may elect to participate in some or all of the regular class exercises.

Each student will also be expected to identify an area of study to which he will devote particular attention. Although it is hoped that this interest will grow and deepen through his medical school years, a shift in the focus of special study may in some instances be desirable.

In selecting independent scholars, applications will be invited from among the top students of the incoming class. Students will be selected from each freshman class on the basis of all available information including academic record, MCAT, recommendations, and interview. Special testing procedures to identify more precisely the qualities that should characterize an independent scholar may also be used.

Opportunity may be provided for a limited number of upper class students to enter the program. Selection of these applicants will be based upon criteria similar to those noted above.

Promotion and graduation will be contingent upon successful performance on all certifying procedures required in the College of Medicine and the recommendation of the Committee on Promotions. In order to be designated an independent scholar upon graduation a student must either submit an acceptable thesis or pass a comprehensive examination covering the area of his special study.

The program is under the direction of Truman O. Anderson, M.D., Ph.D. Further information may be obtained by writing to him at P.O. Box 6998, Chicago, Illinois 60680.

COURSES OF INSTRUCTION

The following list of courses is in alphabetic order by departments. The courses offered in each department are listed numerically. In the description of each course the letters F, W, Sp, and Su indicate the fall, winter, spring, and summer quarters, and the periods of time required each week apply to the whole quarter unless the number of weeks is stated. Credit is calculated in clock hours.

ANATOMY

Professors: E. K. MacRae (Acting Head of Department), E. L. DuBrul, R. F. Inger, O. F. Kampmeier (Emeritus), R. H. Krehbiel, L. M. H. Larramendi, A. LaVelle, H. C. Maibenco, J. C. Plagge, S. R. M. Reynolds (Emeritus), A. J. Schmidt, P. H. Simer (Emeritus), G. Von Bonin (Emeritus), R. Zangerl, A. A. Zimmermann (Emeritus).

Associate Professors: H. R. BARGHUSEN, P. A. CASELLA, A. F. CIPOLLA, N. LEMKEY-JOHNSTON, Y. JORANSON (Emeritus), L. G. KHEDROO, K. F. LIEM, H. MONSEN, W. A. K. REYNOLDS, P. J. VAN ALTEN, G. ZECHEL (Emeritus).

Assistant Professors: J. R. Bolt, M. M. Kernis, R. P. Scapino.

Lecturers: A. A. HIRATA, C. A. HOVDE, U. F. ROWLATT.

Research Associate: F. W. LAVELLE.

The course in anatomy is offered in the fall, winter, and spring quarters of the freshman year. It includes gross anatomy (301) which continues through two quarters, microscopic anatomy (302) including various aspects of embryology, during the first two quarters, and neuroanatomy (303) in the spring quarter. In each of these courses the essential morphological features and characteristics of the human body are emphasized, developmental and certain genetic concepts are stressed, and attention is given to situations in which morphological and functional interdependence is prominent. An attempt is made to emphasize the developmental and ever changing aspects of living structures at different phases of life. Emphasis is largely upon the adult human organism.

Gross anatomy is scheduled to meet from 8:00 a.m. to 12:00 noon on two days a week for two quarters. A number of lectures in the first quarter serve to orient and direct the student. After about five weeks, lectures are less frequent and are of an integrating nature. The laboratories are open for dissection until 10:00 p.m. on weekday nights, Monday through Friday, and all day Saturday until 5:00 p.m. unless they are scheduled for use by other classes. Clinical departments participate from time to time in order to emphasize anatomical aspects of their disciplines.

In microscopic anatomy, lectures are held twice weekly and laboratory work follows the lectures. An attempt is made to emphasize genetic, cytochemical, developmental, and the changing aspects of living structures at different times of life, and to relate the work in human anatomy to biological principles in order to provide a basis for subsequent medical study.

Neuroanatomy, in the spring quarter, occupies two half days a week. It considers the gross and microscopic relationships of the nervous system and is highly functional in orientation. As in gross anatomy, much responsibility, under guidance, is placed upon the student to learn what is required of him.

Elective courses are available each quarter in conjunction with the Graduate College, and a limited number of medical students undertake a program of studies leading to a higher academic degree.

Required Courses — First Year

- **301.** Human Gross Anatomy. Dissection of the human body, consideration of development of organ systems. X-ray anatomy. 168 hours; continuous through F and W.
- **302. Human Histology.** Microscopic study of the tissues and organs, histogenesis, placentation, early embryonic development. 130 hours; continuous through F and W.
- **303. Human Neuroanatomy.** Gross and microscopic structure, development of the central nervous system. 60 hours; Sp.

Required Courses — Other Colleges and Schools

Anatomy 101. Introduction to Human Anatomy. College of Nursing. Anatomy 535. Gross Anatomy. College of Dentistry.

BIOLOGICAL CHEMISTRY

Professors: A. Nisonoff (Head of Department), O. Bergeim (Emeritus), S. B. Binkley, J. A. Hayashi, M. K. Horwitt, H. Jeffay, C. A. Johnson (Emeritus), H. G. Mattenheimer, T. C. Myers, M. E. Rafelson, H. H. Sky-Peck, B. Weissmann.

Associate Professors: A. Bezkorovainy, M. S. Hanlon, W. H. Harrison, R. Kathan, N. Ressler, E. B. Titchener.

Assistant Professors: C. Arsenis, E. G. Brunngraßer, B. Century, E. R. Cole, R. D. Coleman, C. C. Doughty, A. Dubin, C. M. Gerbeck, T. O. Henderson, J. F. Kachmar, K. E. Kuettner, J. Molnar, T. V. Rajkumar, E. Schuytema, G. R. Simon, K. R. Swiatek, J. C. Vary, L. A. Witting, H. M. Wu.

Research Associates: P. G. CLEVELAND, M. TETAS.

Instructor: S. N. MILLNER.

Biological chemistry is a science in which the fundamental knowledge of the various branches of chemistry (analytical, inorganic, organic, and physical), physics, and biology are combined to seek a better understanding of the chemical constitution and processes of the living organism. The subject has two general aspects which extend the sciences of anatomy and physiology into the realm of the invisible: chemical structure is anatomy at the molecular level; the study of the chemical processes of the living organism is physiology at the molecular level.

The three-quarter course (fall, winter, and spring quarters of the first year) in biological chemistry required of all students in the College of Medicine emphasizes the chemical and biological principles involved in living processes with as much integration with the other preclinical sciences (anatomy, microbiology, pathology, pharmacology, and physiology) and clinical sciences as seems feasible at this stage of medical education. A foundation is laid upon which the student can and must build as other subjects are studied, if the full benefits of chemistry to clinical medicine are to be obtained. Stated in more detail, the course has four principal objectives: (1) to teach students to think in terms of chemistry about physiological processes and changes; (2) to develop an appreciation of quantitative thinking and action; (3) to develop technical skill; (4) to familiarize students with some of the more important clinical chemical concepts.

Opportunities are offered, to the extent that facilities are available, for advanced study and research for those students who wish further knowledge and experience in this field. Such students should consult the department for further information.

Required Courses — First Year

301-302. Biological Chemistry. Chemistry of the constituents of tissues and body fluids; digestion, absorption, and intermediary metabolism of lipids, proteins, and carbohydrates in health and disease, and the role of hormones, vitamins, and enzymes in the regulation of these processes; the application of this knowledge to the problems of disease. Lectures and conferences. Four hours each week, F; four hours each week, W.

Medical students may elect Biochemistry 303 or 304 in the Spring Quarter.

- 303. Biological Chemistry. A project-type laboratory in which the students work on an individual basis with members of the staff. The student may choose from a wide variety of projects; including clinical chemistry, protein chemistry, blood chemistry, enzymes and problems in metabolism. Five hours each week, Sp.
- 304. Biochemistry of Disease. This course is a study of kidney and liver function in disease states. Also considered are enzyme function, hormone function, proteins and porphyrins in disease. Three hours each week, Sp.
- 305. Genetics. The course will consist of ten lectures and discussions of men-

delian genetics, vehicles of inheritance, cytogenetics, the "gene" as the chemical basis of heredity, cell differentiation, segregation and linkage analysis, mutation, biochemical genetics, population genetics, and genetics and public health. Three hours each week, Sp.

Elective Courses - Not for Credit

- 360. Special Problems in Biochemistry. This course is designed to meet the needs of medical students (and others) who wish to take special research work in biochemistry during the summer, during alternate quarters, or during the academic year. This course will permit students to pursue, in the laboratory of faculty members, various areas of research in which they may be interested. Su, F, W, Sp.
- **362.** Clinical Biochemistry. Lectures in clinical biochemistry. One hour per week; W.

Required Courses — Other Colleges and Schools

Biological Chemistry 101. Introduction to Biological Chemistry. College of Nursing. Biological Chemistry 505. Biological Chemistry. College of Dentistry. Chemistry 123. Biological Chemistry. College of Pharmacy.

DERMATOLOGY

- Professors: A. Rostenberg (Head of Department), T. Cornbleet (Emeritus), F. Malkinson, H. Shellow, F. J. Szymanski, L. F. Weber (Emeritus).
- Associate Professors: S. Barsky, S. W. Becker, Jr., A. B. Falk, C. W. Finnerud (Emeritus), I. Neuhauser (Emerita), M. O. Perlstein (Emerita), B. Potter, M. Robin, A. H. Slepyan, L. M. Solomon, L. E. Tavs.
- Assistant Professors: W. E. Bailey, S. Bielinski, I. H. Distelheim, D. F. Fretzin, M. B. Kirschenbaum, E. Mandrea, R. S. Medansky, M. Medenica, E. S. Peterka, T. V. R. Rajkumar, L. Rubin, E. M. Smith (Emeritus), O. C. Stegmaier.

Lecturer: G. S. Kass.

Instructors: I. Aleshire, A. T. Altman, H. Aram, R. I. Bernstein, K. J. Desai, S. A. Diamond, A. L. Francik, R. M. Handler, M. H. Klapman, C. L. Kroll, M. Levitan, W. L. Schmerold, B. E. Silver, H. M. Spinka, H. S. Steinberg, S. Weinstein (Emeritus).

Assistant: D. COUGHLIN.

Diseases of the skin comprise a high proportion of the cases seen by physicians. Many skin lesions have a systemic component and many are expressions of underlying systemic disease. It is important that all physicians, general prac-

titioners and specialists alike, become familiar with the skin and learn to recognize the clues it may give to diagnosis.

A course of lectures covering the most common diseases of the skin is given as part of the clinical lecture program. Emphasis is placed on the diseases most likely to be seen in practice and on those having systemic significance. Consideration is also given to the diagnosis and treatment of industrial dermatoses and to the preventive measures that are available. The role of allergy in dermatology and the psychosomatic aspects of skin diseases are considered. Syphilis from the point of view of morphologic diagnosis, serologic diagnosis, and therapy is considered. Colored lantern slides both of clinical cases and histopathologic sections are used extensively as visual aids.

Required Clinical Courses

- 350. Lectures on Dermatology and Syphilis. As part of the Clinical Lecture Program a formal coverage of the field of dermatology is presented by means of kodachrome slides and demonstrations in a series of one-hour sessions.
- 376. Clinical Dermatology. The presentation of cases with a discussion of diagnosis and therapy. Each student is assigned patients and is required to take a history, examine the patient, and attempt a differential diagnosis by describing the lesions and their distribution. Therapy is discussed. One of the attending staff supervises the work.

Demonstrations are given of various procedures, such as punch biopsies, freezing technics, cauterization, and electrodesiccation, for the diagnosis and treatment of skin lesions. One-half day a week during the pediatric clerkship. Su, F, W, and Sp.

Alternative Quarter Program

Two types of alternate quarter experiences are offered:

Clinical: 399A

An alternate quarter in clinical dermatology can be a full-time or a parttime experience. It includes ward rounds, attendance at the out-patient clinics, and participation in departmental courses in Physiology of the Skin, Examination of the Dermatological Patient, Mycology, Dermatohistopathology, and Immunology. The student will also participate in the Journal Club and in a seminar at which he will present selected subjects.

The alternate quarter enables the student to observe selected patients from the time of their first visit. He will evaluate them from a diagnostic point of view and follow them to observe the result of therapy. Opportunities for special diagnostic procedures, such as the punch biopsy, the direct microscopic examination for fungi, and the observation of the patient by Wood's light, will be given. In addition to this, the student will have the opportunity of treating simple skin lesions by destructive procedures, such as excision, fulguration, and desiccation.

Experimental: 399B

An alternate quarter in experimental dermatology is offered as a full-time course. This includes participation in courses in Biochemistry and Physiology of the Skin as well as seminars in current literature relating to investigative dermatology.

Experimental technics of investigative dermatology will be demonstrated and used. This includes studies in Cutaneous Immunology and Biochemistry by means of experimental animals, as well as clinical investigation. The student has the opportunity to initiate, plan, and follow through a dermatologic study, as well as experience in writing and bibliographic footwork.

Length of program: The clinical dermatologic alternate quarter may be elected for a minimum of six weeks as a half-day experience to a maximum of nine months as a full-time experience. Other possible time selections are available between these extremes. Su, F, W, Sp.

Experimental dermatological alternate course 399B may be elected for six or nine months, Su, F, W, Sp.

Elective Courses — Not for Credit

- 360. The Clinical Physiology of the Skin. The anatomy, physiology, and biochemical function of the skin is reviewed. Its relation to the body as a whole and its function in environmental homeostasis is stressed. The course endeavors to show how the skin aids in temperature regulation and protection from noxious influences. Its immunologic properties are discussed and the cutaneous results of inborn errors of metabolism are illustrated. Prerequisite: Physiology 301 and 302, and Biochemistry 301 and 302, or equivalent. F.
- 361. Examination of the Dermatologic Patient. Practical instruction is given in examination of the skin, with particular emphasis on systemic disease. Students are trained to describe the patient's eruption. Particular attention is given to cutaneous clues to systemic disease. A specialized approach to taking a history from the patient with skin disease is stressed. Groups of six students meet weekly for a two-hour session. Sophomores. W.
- 362. Histopathology of the Skin. Opportunity is afforded for correlation of gross pathologic change (i.e., the patient's lesion) with the histopathologic changes. Most of the time is spent in study and discussion of sections of common dermatoses and cutaneous neoplasms, on the basis of integration with principles of general pathology. Sophomores, juniors, seniors. Limited to five students. Sp.
- 363. Seminars in Dermatology. Selected topics in basic physiology, biochemistry, and immunology of the skin are discussed in depth, with active

- participation by the students. Prerequisites: Biochemistry 303, Physiology 303. Sophomores, juniors, seniors. F, W, Sp.
- 364. Ultrastructure of Normal Human Skin. A short introduction to the technique of electron microscopy and a description of the cell ultrastructure will be followed by a description of the ultrastructure of normal epidermis and dermis and their constituents and contrasted with some selected pathological conditions. Simultaneous light and electron microscopic micrographs will be shown. Prerequisite: 302 Human Histology.

MEDICAL SOCIAL WORK

Associate Professors: C. H. PREUCIL (Head of Department), K. HEPLER, D. LARGE, M. F. MEUSER.

Assistant Professors: H. S. Dublin, L. Fassler, S. A. Foster, N. V. Gilson, M. E. Goss, R. W. Helms, D. M. Johnson, A. Klein, L. E. Natusch, M. V. Robinson, R. L. Swearingen, M. Waite (Emerita).

Research Associates: E. E. JACOBS, I. P. WARREN.

Instructors: M. R. Adolph, O. E. Alexander, D. C. Bean, D. C. Bennett, S. P. Bladholm, L. M. Burch, G. P. Durham, R. L. Edwards, S. Field, J. F. Hoffman, D. R. Johnson, V. Kaiser, C. Kooy, G. O. Lloyd, E. H. Mellinger, J. B. Paul, S. L. Price, C. L. Regier, M. L. Rivera, J. Robertson, M. L. Robinson, F. Romirowski, C. L. Sarnat, I. G. Schreiber, C. E. Soffer, S. S. Spitz, J. M. Sullivan, P. Tasso, O. Tate, A. C. Thompson, M. L. Toscano.

The major objectives of the Department of Medical Social Work are: to help students to observe and to understand the variety of meanings which illness may have for patients and their families; to recognize the pertinence of family relationships and of other social factors in the appraisal of medical problems and in the determination and success of treatment; to evaluate the significance of such factors in specific situations; and to learn what types of community facilities for rehabilitation are available. In order to help the student to develop skill in carrying out these functions, the department often teaches the methodology for: interviewing; exploration of sources of social information other than the patient; evaluation of observations of patients and others; and use of community resources to the best advantage of the patient. For medical students in the clinical clerkships, this material is integrated into the courses offered by lecture-discussions, seminars, rounds, group discussions, conferences with one or more students, and audio-visual aids.

Patients under medical supervision as inpatients or outpatients, many of whom are being served by the department, provide the clinical material for teaching.

Students of nursing are taught similar material in a variety of clinical ex-

periences. A series of lecture-discussions is given occupational therapy students, as well as instruction in connection with several clinical services.

Each year, approximately twenty graduate students of social work from the University of Illinois receive their clinical instruction in the department.

MEDICINE

Professors: H. F. Dowling (Head of Department), D. I. Abramson, A. Arkin (Emeritus), E. M. Barton, L. M. Bernstein, J. A. Campbell, R. B. Capps, R. A. Carleton, R. W. Carton, M. J. Colbert, T. J. Coogan, Sr. (Emeritus), N. J. Cotsonas, Jr., J. W. Dow, L. Feldman (Emeritus), E. F. Foley (Emeritus), J. J. Frankel, E. B. Freilich (Emeritus), J. S. Graettinger, R. M. Gunnar, P. Heller, W. G. Hibbs (Emeritus), F. K. Hick, H. H. Hussey, G. G. Jackson, E. Kaplan, R. M. Kark, F. B. Kelly (Emeritus), L. Kornel, S. E. Krasnow, L. R. Limarzi, A. Littman, R. V. Lourenco, H. C. Lueth, F. Malkinson, G. E. Miller, M. M. Montgomery, K. H. Pfuetze, C. G. Pilz, V. E. Pollak, B. Z. Rappaport (Emeritus), N. B. Roberg (on leave of absence), R. C. Roskelley, M. Samter, J. A. Schoenberger, T. B. Schwartz, J. T. Sharp, M. A. Spellberg, M. M. Stanley, G. W. Stuppy (Emeritus), S. G. Taylor, F. E. Trobaugh, Jr., A. Vanderkloot (Emeritus), G. A. Williams, W. L. Wood (Emeritus).

Associate Professors: T. O. Anderson, F. W. Bachmann, D. Baldwin, R. J. Becker, R. F. Beers, M. Berg, A. Bernstein, L. H. Berry, G. H. BERRYMAN, H. E. BESSINGER, W. R. BEST, G. J. BREBIS, H. C. BREUHAUS, D. Bronsky, R. G. Brown, H. L. Browns, G. V. Byfield, N. V. Costea, A. P. Creticos, H. D. De Young, J. W. Fischer (Emeritus), G. C. FLANAGAN, G. W. FORSTER, D. T. FOXWORTHY, M. FRANKLIN, S. A. Franzblau, W. Fried, R. C. Fruin, C. L. Gantt, A. Gunther, J. J. HAHN, B. HALL, W. J. HAND, W. S. HARRIS, A. W. HOLMES, E. K. HUDSON, H. L. HUNTER, P. N. JONES, R. B. KATHAN, A. B. KENDRICK (on leave of absence), R. L. Kesler, J. R. Kinney, W. W. Kirkland, A. A. Knight (Emeritus), W. H. KNOSPE, J. H. LAST, H. LEVINE, R. LEVITAN, M. R. LICHTENSTEIN (Emeritus), C. J. LUNDY (Emeritus), F. B. LUSK (Emeritus), J. C. McMillan, Jr., J. S. Mehlman, M. M. Mosko, R. C. MUEHRCKE, J. J. MUENSTER, JR., M. A. MUFSON, J. P. NAUGHTON, B. G. Nelson, J. T. Paul, L. Perlman, W. H. Phelan, R. J. Pietras, I. Pilot (Emeritus), T. Z. Polley, R. M. Poske, M. M. Pyle, E. J. Ranke, S. H. Rosenblum (Emeritus), A. F. Schick, A. M. Schmidt, F. D. Schwartz, R. E. SLAYTON, N. E. SMITH, I. E. STECK, F. STEIGMANN, A. THOMSON, A. Toigo, E. F. Traut (Emeritus), R. W. Trimmer (Emeritus), W. R. Tucker, G. A. Vance, H. Wakefield (Emeritus), S. W. Weisberg, P. L. WINTER, C. K. WOLFE, JR., S. ZIVIN.

Assistant Professors: O. H. AKRE, G. L. BACH, S. BARROCAS, F. O. BECKER, D. W. Bentley, J. Boswell, R. R. Briney, A. M. Brixey, W. C. Brown, J. D. Cece, G. M. Cerchio, J. G. Clark, C. Coggeshall, T. J. Coogan, Jr., J. C. Cooksey, G. W. Cotts, J. Danon, J. G. Demakis, J. A. Det-WEILER, H. A. EL-RAMLI, P. J. FARAGO, R. E. FELIX, E. W. FISHERMAN, W. E. FISHMAN, B. W. FOX, J. P. FREELAND, R. G. GAILITIS, R. M. GALT, M. A. Goldmann, W. M. Hamby, W. G. M. Hardison, C. A. Hedblom, R. L. HERTING, L. J. HERTKO, B. H. HILKEVITCH (Emeritus), L. C. JOHN-STON, F. W. JONES, S. M. KAHN, B. M. KAPLAN, T. M. KILBRIDGE, S. Kofman, J. V. Koik, E. S. Krasnow, G. H. Laing (Emeritus), B. D. LEE, S. LEVIN, H. S. LOEB, W. E. MATHY, V. E. McBryde, M. M. MEYER, N. K. MISHRA, J. E. MOFFAT, T. MORRISON, R. L. MULDOON, J. R. NECHELES (Emeritus), H. NEUHAUS, J. R. NORA, C. P. PERLIA, G. T. Perry, D. F. Pochyly, J. Post, J. M. Pouget, S. J. Presley, D. E. Rager, I. D. B. Rennie, M. S. Rosenberg, A. N. Ruggie, W. G. Ryan, S. R. Salberg, A. R. Sapienza, R. J. Sassetti, J. M. Schless, G. S. Scholly, R. R. Schuessler, W. K. Scupham, H. A. Shafter, W. H. Shlaes, V. R. SILINS, E. D. STANLEY, D. W. TARUN, C. K. TASHIMA, C. Y. TENG, L. Zelkowitz.

Lecturers: W. C. Alvarez (Emeritus), J. P. Doffy, M. Fishbein (Emeritus), W. S. Hoffman (Emeritus), H. A. Levy, O. Paul, A. H. Rosenblum, I. J. Stern, E. K. Straus (Emerita), J. H. Talbott, J. R. Tobin, Jr.

Associates: M. Budrys, F. C. Carter, R. E. Casas, G. Cohen, D. E. Conrad, J. A. Davis, G. A. De Jong, J. R. Erickson, N. K. Furlong, R. H. Garcia-Camilo, W. R. Garr, M. J. Goldstein, L. J. Grimelli (Emeritus), E. K. Griffiths, E. Grosz (Emeritus), T. H. Hayes, R. N. Hedges (Emeritus), W. H. Highstone, W. F. Hoeppner (Emeritus), R. A. Jamieson, I. G. Kaganiec, F. B. Kelly, Jr., W. J. Kirby (Emeritus), R. Kirshen, W. J. Kristy, T. B. Longabaugh, R. L. Mann, P. S. Mayer, P. A. Meredith, G. Y. Mills, C. A. Montgomery, J. E. Neustadt, J. S. Newman, D. E. O'Brien, J. Oden, Jr., L. Ohringer, L. T. F. Pap, L. C. Peney, A. Robbins, D. S. Rosset, J. A. Rowe, D. D. Sax, R. A. Scala, M. J. Snapp, H. B. Stone, J. F. Strauss, Jr., H. E. Sweeney, K. Tausk, R. Teplitz, C. B. Thrift, A. C. Twiss, C. S. Vil, E. A. Vondrasek, E. B. Williams, G. O. Zeman, J. R. Zvetina.

Research Associates: M. S. BHORADE, M. M. DEDERICK.

Instructors: K. E. Armbruster, L. Balgos, M. Banerji, R. A. Bielinski, B. B. Blaauw, Jr., J. G. Blackaller, C. M. Blain, W. V. Blazek, M. B. Blumberg, H. C. Bonbrest, J. T. Branit, J. Brodkin, N. S. Browdy, E. Butler, Jr., D. I. Charous, K. K. Chawla, D. Czarny, N. D. Dabhade, R. L. Devetski, L. P. Donahue, J. M. Dyniewicz (Emerita), P. G. Economou, L. D. Edwards, G. I. Eyjolfsson, C. R. Farra, W. D. Fish, R. P. Foresman, E. A. Georgoulis, S. A. Gregory, J. H. Grissom, N. J.

Gubisch, E. Guevara, D. H. Gustafson, D. Gutierrez, R. W. Hedger, E. E. Howell, R. L. Hughes, J. C. Jones, A. Karnik, R. S. Kassriel, A. P. Knott, Jr., F. J. Konicek, L. A. Kosova, D. Lal, G. R. Lang, D. M. Larson, P. D. Levin, F. Lopez, E. K. Manesis, N. Martinez, B. R. Mayron, P. A. McCreary, V. Medenis, M. Mellody, Y. Moneer, G. A. Nelson, J. Neuman, G. Northrop, D. E. Oelke, J. A. Patterson, R. J. Powers, D. B. Rappaport, R. H. Reid, S. R. Rosen, H. J. Rosenblate, A. J. Rothenberg, A. P. Salvagione, M. W. Schaefer, A. A. Serritella, P. C. Shah, R. H. Shah, C. H. Shallat, J. L. Showel, E. H. Siegel, N. M. Sokol, G. Sosa, R. H. Suhs, V. Suradhat, A. Susmano, M. S. Tarzynski, E. B. Winslow, E. M. Ziolkowski.

Assistants: C. B. Athanassopoulis, S. Borowsky, B. J. Brodkin, G. I. Cabin, R. Chandraskhara, F. Chmelik, R. G. Chochola, H. L. Christensen, Jr., A. N. DeMeo, S. C. Deresinski, G. Dunea, D. Dwyer, R. N. Edelson, M. Eliastam, P. N. Finkel, M. L. Fisher, L. J. Frazin, R. F. Fucik, M. F. Ghani, J. R. Gilson, M. L. Greenberg, A. S. Hagan, G. T. Hanley, S. M. Hessl, J. E. Jupa, P. J. Kane, E. A. Kompare, J. V. Kopp, D. R. Lebbin, B. Levin, D. S. Levine, R. J. Lewis, K. C. Lindahl, P. J. Lindberg, M. Lopata, A. T. Luskin, J. E. Martin, D. A. Martinez, J. J. Maurer, W. J. McCormick, A. M. Morris, N. Nadler, S. M. Najjar, B. A. Nemchausky, B. W. Noble, J. M. Olefsky, D. P. O'Neill, F. Parsa, G. R. Peterson, V. K. G. Pillay, B. H. Pine, J. E. Puklin, M. M. Ramsey, S. P. Ringel, C. L. Roeth, A. H. Rossof, S. Seyfert, J. Singh, N. L. Sklaver, D. Sloan, W. Soonattrakul, L. A. Weiner, R. Welch, G. M. Widzer, R. J. Wolf, D. F. Wood, D. Wu, H. J. Zeitz.

Research Assistants: J. W. Bornhoeft, M. A. Colandrea, S. Franklin, S. J. Heller, J. Honari, B. J. Joseph, M. K. Kale, S. P. Korda, P. D. Levin, R. Loddenkemper, V. T. Lolans, R. C. McClain, I. C. Mercer, A. M. Morris, V. K. Olexy, J. H. Oyama, D. Paul, O. Pichairut, E. Pinsel, D. P. Riff, M. E. Rubenis, G. C. Santiago, M. H. Tonkabony, N. Tuchinda, F. Wang, D. M. Wilson.

Required Courses — Second Year

325. The Examination of the Patient. Instruction in history-taking and physical examination of the patient is begun in the second year. Normal findings are demonstrated early in the course, and thereafter work on the wards of several hospitals deals with the close study of patients with abnormal findings. A one-hour lecture once a week deals with selected topics not covered in the texts. Special instruction is given in the Departments of Obstetrics and Gynecology, Orthopaedic Surgery, and Otolaryngology. Small sections of four students meet with an instructor for a three-hour practical teaching session once a week; F, W, and Sp.

Required Clinical Courses

- 350. Clinical Lecture Program. The department contributes substantially to the integrated lecture program in clinical medicine which begins in the spring quarter of the sophomore year and continues throughout the first three quarters of the clinical years. Su, F, W, and Sp.
- 354. Bedside Teaching Clerkship. Cook County Hospital, Presbyterian-St. Luke's Hospital and West Side Veterans Administration Hospital primarily; but may include Research and Educational Hospitals and Hines Veterans Administration Hospital. Students are directed in their work by the associate and attending men of these hospitals. Thirty-five hours each week; Su, F, W, and Sp.
- 377. Outpatient Clerkship. Research and Educational Hospitals and Presbyterian-St. Luke's Hospital. Three half days each week; Su, F, W, and Sp.

Alternative Quarter Program

- 398. Inpatient Clerkship. University of Illinois Hospital and Hines Veterans Administration Hospital primarily; but also may include Cook County Hospital, West Side Veterans Administration Hospital and Presbyterian-St. Luke's Hospital. Minimum of forty-four hours each week for twelve weeks; Su, F, W, and Sp. Additional time may be required at the discretion of the chief of the medical service to which the student is assigned. Prerequisite: Medicine 354.
- 399. Tutorial Studies in Internal Medicine. These studies are pursued with members of the Department of Medicine at Cook County Hospital, the Hines and West Side Veterans Administration Hospitals, Presbyterian-St. Luke's Hospital, University of Illinois Hospital, and others. An intensive three-month course, under tutorial supervision, in a clinical or investigative area of internal medicine. Forty-four hours each week; Su, F, W, and Sp. If the tutorial experience involves working with patients, course number 354 is usually a prerequisite.

Elective Courses - Not for Credit

- 360. Elementary Survey of Radiobiology. This course introduces the student to the characteristics of ionizing radiation and its interaction with matter and living systems, from chemical components through cells, tissues, organs, and organisms. The medical aspects of radiation genetics, radiation sickness, and the clinical use of radioisotopes are included. Limited to twenty students. Sp.
- 361. Introductory Computer Programming with Medical and Biostatistical Applications. Lecture and laboratory course on function and programming of digital computers for biostatistical and other medical analyses. The course includes elementary FORTRAN and TABTRAN programming

- languages, writing of programs involving elementary statistical and mathematical methods as applied to problems of medical research, programs to be run on an IBM-1620-2 computer. W.
- 362. Clinical Physiology of the Gastrointestinal Tract. Seminars are to be prepared by students on selected subjects in advanced physiology of the digestive tract. Guidance in preparation and extended discussion is given by members of the faculty and by faculty from other schools. W.
- 365. Advanced and Applied Respiratory Physiology. The course consists of eleven weekly lecture-demonstration-seminar sessions lasting two hours each and covering the essentials of respiratory physiology and clinical pulmonary function testing. Students are required to complete a library research project on an aspect of respiratory physiology of their choice under the guidance of a faculty preceptor. Sophomores, juniors, and seniors. F.
- 366. Introduction to Electrocardiography. Vectoral analysis of scalar electrocardiograms is presented in six segments: the basic analytic approach, the normal ECG, the diagnosis of cardiac chamber enlargement, intracardiac conduction defects, ischemic heart disease, and basic concepts. One hour weekly for ten weeks; winter quarter only, all classes; no limit on number of students.

Required Courses — Other Colleges and Schools

Occupational Therapy 324. Lectures on Medical Conditions. School of Associated Medical Sciences.

MICROBIOLOGY

Professors: S. Dray (Head of Department), F. W. Deinhardt, J. E. Kempf, M. V. Novak.

Associate Professors: T. O. Anderson, P. Baram, C. W. Hammond, N. Khoobyarian, A. V. Kroeger, C. F. Lange, L. J. LeBeau, A. S. Markowitz, E. Meyer (Emerita), R. W. Pumper, C. E. Roberts, W. I. Taylor, E. E. Vicher, A. Widra.

Assistant Professors: H. Ainis, M. J. Becker, R. Haque, K. L. Knight, D. H. Lavrin, R. L. Northrop, D. E. Thor.

Research Associates: C. G. Bell, E. Ben-Porath, F. P. Gavitt, W. L. Hunt, G. Rossi, G. J. Shramek.

Instructors: W. LANDAU, B. MARCZYNSKA.

Assistant: E. W. Knoll (Emerita).

The course in microbiology and immunology is offered during the first and second quarters of the sophomore year. The course consists of the study of

infectious agents and immune mechanisms. During the first quarter, emphasis is placed on understanding the fundamental properties of microorganisms and the basic principles of immunology. The second quarter is concerned with a study of the way various microorganisms cause infectious diseases and immunological mechanisms which lead to hypersensitivity, disease, or immunity. The laboratory is designed to provide an appreciation of the techniques used in investigative and diagnostic microbiology and immunology and to help students develop a critical attitude toward the interpretation of experimental data, especially in reference to diagnostic problems. In addition to the laboratory, tutorial conference sessions are held during the first and second quarters in order to provide an opportunity for students to discuss their understanding of the subject matter with members of the faculty.

Required Courses — Second Year

- 325. Microbiology and Immunology. Chemistry of antigens, antibodies, and antigen-antibody reactions; antibody formation; morphology, growth, nutrition, and metabolism of bacteria and viruses; action of antibiotics and other antimicrobial agents; microbial genetics; immunogenetics of blood and serum groups; histocompatibility genes. Course has three lectures and four laboratory hours each week. At specific intervals, two of the weekly laboratory hours are replaced by tutorial conference sessions. F.
- 326. Microbiology and Immunology. Systematic consideration of bacteria, viruses, fungi, and protozoa as microbial agents of disease; pathogenicity of microorganisms, immunity and resistance; immunological mechanism of diseases involving hypersensitivity and autoimmunity; transplantation immunology. Course has three lectures each week and four hours laboratory or conference each week. W.

Alternative Quarter Program

For the alternate quarter program, students are encouraged to register for graduate work leading to the M.S. or Ph.D. degrees. Ordinarily a student should be able to complete the M.S. degree by the time he obtains his M.D. Outstanding students and students with advanced preparation may be able to achieve the Ph.D., M.D. program by taking an additional year or two for graduate work in the middle of their medical curriculum.

See the Graduate College catalog for full details of requirements and the courses listed below:

- 350. Advanced Medical Microbiology.
- 401. Immunochemistry.
- 402. Immunobiology.
- 403. Virology I.
- 406. Cell Biology.

- 407. Virology II.
- 408. Immunogenetics.
- 410. Research Techniques in Microbiology.
- 491. Seminar and Literature Review.
- 493. Research in Microbiology.

Required Courses — Other Colleges and Schools

Microbiology 101. Microbiology. College of Nursing.

Microbiology 233. Microbiology. College of Pharmacy.

Microbiology 605. Microbiology. College of Dentistry.

Occupational Therapy 324. Microbiology for Occupational Therapy. School of Associated Medical Sciences.

NEUROLOGY AND NEUROLOGICAL SURGERY

Professors: E. Oldberg (Head of Department), L. W. Avery (Emeritus), O. T. Bailey, P. Bailey (Emeritus), M. M. Cohen, J. S. Garvin, F. A. Gibbs, B. W. Lichtenstein, O. Sugar, H. C. Voris.

Associate Professors: L. W. Amador, A. Arnold, L. D. Boshes, W. H. Harrison.

Assistant Professors: R. O. Burns, N. B. Dobin, R. A. Manfredi, S. Metrick, E. Page-El, P. R. Rosenbluth, C. S. Textor, W. W. Whisler.

Associates: A. B. Johnson, V. R. Sorum, E. Tobias, D. C. Voris, N. Zolt.

Research Associate: H. MACKLER.

Instructors: E. M. Anderson, R. A. Beatty, E. J. Herba, E. D. Johnson, H. W. H. Kienast, H. L. Klawans, M. I. Matz.

Assistants: M. Avila, J. A. Carroll, J. F. Cusick, J. P. Henderson, S. Lazar, A. B. Minster, T. F. Norton, J. L. Salazar.

Research Assistant: E. L. GIBBS.

Neurology and neurological surgery are the sciences having to do with the diagnosis and treatment of organic medical and surgical conditions affecting the central and peripheral nervous system.

The teaching for sophomore students includes six lectures on the fundamentals of the neurological examination. These are incorporated into the course in physical diagnosis conducted by the Department of Medicine. Five lectures on basic neuropathology are also incorporated into the course in general pathology. Instruction embraces the fundamentals of neurology, including the complete neurological examination of the individual, together with the interpretation of the abnormal findings which exist when various parts of the nervous system are affected. Lectures and clinical presentations on the medical diseases

affecting the nervous system, including their symptoms, courses, pathological bases, and treatment, are given as part of clinical lecture series. Instruction includes a course in clinicopathological correlation of the various processes affecting the nervous system; and a course in the fundamentals of neurological surgery.

Graduate work is also offered in neuropathology and clinical neurology.

Required Clinical Courses

Neurology

Professor: Cohen (Head of Section).

- **350.** Fundamentals of Neurology. As part of the Clinical Lecture Program the anatomy, physiology, pathology, and clinical examination of the nervous system are correlated. The principal diseases of the nervous system are presented by means of clinical demonstrations.
- 351. Outpatient Neurology. As a part of the outpatient experience, students spend two half-days per week in the outpatient clinics of the University of Illinois Hospital or Presbyterian-St. Luke's Hospital. Su, F, W, and Sp.

Alternative Quarter Program

- 399A. Neurology and Neurosurgery Clerkship. Clerks have both inpatient and outpatient work, attend rounds given by the attending staff, and attend the weekly conference in which cases are demonstrated. A six-week clerkship (mornings only) limited to ten students; Su, F, W, and Sp.
- 399B. Medical and Basic Neurology Clerkship. (Presbyterian-St. Luke's Hospital.) Six students are assigned inpatient and outpatient neurology cases. They make rounds, attend teaching conferences, and assist in performance and evaluation of neurologic diagnostic procedures. Two additional students can be accommodated in basic neurology research laboratories. They work on investigation in progress in the laboratories and are taught to carry out appropriate investigative procedures. A twelve-week clerkship limited to eight students; Su, F, W, and Sp.

Required Courses — Other Colleges and Schools

Occupational Therapy 324. Neurological Conditions. School of Associated Medical Sciences.

OBSTETRICS AND GYNECOLOGY

Professors: R. M. Wynn (Head of Department), E. D. Allen (Emeritus), H. Boysen, F. Falls (Emeritus), A. H. Klawans, W. F. Mengert (Emeritus), J. R. Wolff.

Associate Professors: R. H. Andresen, H. C. Baum, S. J. Benensohn, C. C.

Draa, D. M. Farley, J. P. FitzGibbons, V. C. Freda, W. F. Getttman, R. J. Glenner, H. S. Goodman, J. P. Harrod, J. M. Keller, A. J. Kobak (Emeritus), R. A. Lifvendahl (Emeritus), A. J. Mauzey, F. Paloucek, J. W. Payne, F. O. Priest (Emeritus), G. H. Rezek, R. C. Stepto, H. K. Waddington.

Assistant Professors: A. R. Bacon (Emeritus), J. F. Bartels, R. A. Beebe, R. W. Blumstein, M. H. Boley, C. M. Carey (Emeritus), P. J. Couri, J. L. Daskal, V. S. DiGiulio, M. S. Farmans, G. C. Finola, R. L. Gibson, L. A. Hamilton, C. J. Heiberger, B. M. Kaye, E. J. Justema, C. D. Krause, V. A. Lavieri, R. J. Lee, R. V. Lobraico, J. S. Long, W. J. Marshall, W. S. Miller, D. Orban, G. Pepper, L. F. Peterson, M. P. Pill, P. Ricks, O. J. Rosenzweig, E. Savage, L. J. Schewitz, H. Sered (Emeritus), S. Sholder, C. O. Smith, M. L. Storch, L. J. Sykora, E. B. Sylvester, J. B. Teton, V. Truchly, F. J. Walsh, B. P. Zummo.

Associates: W. M. GARDNER, R. P. OLSON, G. A. RODRIGUEZ.

Instructors: J. S. Angell, G. C. Bonertz, M. A. Chan, J. D. Colleen, W. E. Emeis, E. L. Falloon, K. J. Kim, J. W. Knipmeyer, J. R. Kostelny, L. Levine, J. J. Mullen, E. E. Nyman, M. A. Rosner, R. I. Rubenstein, J. A. Sampson, P. D. Scalzitti, R. G. Stone, N. Tolwinsky, N. C. Treadwell, J. B. Ullman, G. P. Vlasis, L. M. Wallheiser.

Assistants: J. F. Brown, J. C. Ditzler, W. H. Donovan, M. A. Irigoyen, A. Jakubowski, S. C. Kahn, A. N. Kenwick, T. S. Lee, S. A. McCue, L. R. Miranda, R. H. Oberhelman, A. R. Oleck, G. Photopulos, C. S. Rim, R. M. Roy, M. E. Rubin, F. Salimi, W. H. Schultz, A. H. Uy, T. M. Wiggins.

Obstetrics and gynecology are presented to the student as a single discipline. The obstetrician-gynecologist deals with woman as a person, during her reproductive career, and with those functional aberrations and diseases of the female generative tract occurring during any time of life.

Teaching begins in the second year when this department participates in a course in physical diagnosis, given by the Department of Medicine. Two lectures are given to the entire class; in addition, students in small groups spend a period of three hours in the clinic learning the principles of history-taking and pelvic and prenatal examination.

The major teaching of this department takes place during the third and fourth years in a clinical clerkship of nine weeks' duration.

Required Clinical Courses

375. Clerkship. Each clinical student spends about nine weeks on the obstetric-gynecologic service. Approximately two-thirds of the students have clerkships at the University of Illinois Hospital. One-third of the students are assigned to Presbyterian-St. Luke's Hospital. Each student spends full

time in the Department of Obstetrics and Gynecology. The student serves as a junior house officer, responsible for histories, physical examinations under supervision, and the conduct of normal deliveries. Each student should expect to deliver about ten women. He participates also in all gynecologic operative procedures on his assigned patients. The student attends ward rounds twice a week with the Chief of Service, tutorial sessions with the Attending Staff, tumor conferences, and practical teaching sessions with the Resident Staff. His activities are closely integrated with those of the department in general. Su, F, W, Sp.

Alternative Quarter Program

Opportunities are available in several areas of clinical obstetrics and gynecology. Each of these prearranged programs is intended for students who wish to gain more clinical experience than can be obtained during the required clerkship.

General supervision and didactic instruction will be provided by one senior staff member for each of the programs. During the program each student will have ample opportunity to acquire additional technical skills in the particular area.

Three programs are offered, each of six weeks' duration. A student may elect two of the three if he wishes to spend an entire quarter in obstetrics and gynecology. He may elect only one of the programs, spending the remaining six weeks in another department. Preference will be given to students electing the entire quarter in obstetrics and gynecology. These programs are offered in addition to, rather than instead of, opportunities for research in the department.

- 396. Gynecologic Endocrinology, Infertility, and Family Planning. The student will work primarily in the outpatient department, where he will see all patients in the gynecologic endocrine clinic. He will participate in their evaluation and treatment. He will also gain experience with all available methods of contraception. He will have the opportunity to become familiar with the investigation of infertile patients. He will attend the daily noon meeting with the Chief of Service and the House Staff.
- 397. Gynecology and Gynecologic Oncology. The student will work with both clinic and inpatients. He will study all new patients with cancer of the female genital tract and will present them to the weekly Gynecologic Tumor Conference. He will receive practical instruction in cytologic and histopathologic diagnostic methods. He then will participate in their treatment (surgery, radiation, or chemotherapy). He will have ample opportunity to perform certain diagnostic procedures, such as biopsy of the cervix and curettage of the endometrium. He will gain experience with treated patients through attendance at the weekly Tumor Clinic. He will attend the daily noon meeting with the Chief of Service and the House Staff.

398. Labor and Delivery Room Obstetrics. The student will spend most of his time in the labor and delivery suite, where he will gain further experience in the conduct of normal and abnormal labor. He will perform, under supervision, certain obstetric operative procedures such as low forceps and episiotomy, and will assist with others such as cesarean section. He will gain experience in the various techniques of obstetric analgesia and anesthesia. He will attend the daily noon meeting with the Chief of Service and the House Staff.

Elective Courses - Not for Credit

- **360. Methods of Conception Control.** Biological background and clinical application of contraceptive techniques.
- **361. Obstetric and Gynecologic Endocrinology.** Endocrine changes in menstruation, conception, gestation and the puerperium.
- **362. Gynecologic Oncology.** Histopathology, diagnosis, and treatment of gynecological cancer.
- **364.** Electron Microscopy of Female Reproductive Tract. Ultrastructural examination of pregnant and nonpregnant female reproductive organs and placenta. Spring.
- **365.** Morphology and Physiology of the Placenta. Histochemical and ultrastructural examination of placenta. Experiments with placental perfusion.
- **366.** Topics in the Biology of Reproduction. Comparative studies of implantation and placentation. Examination of extraembryonic membranes. Decidualization.
- **367. Family and Marriage.** Structure of the family and behavior of family members including sexual attitudes.

OPHTHALMOLOGY

- Professors: H. Beard (Emeritus), W. F. Hughes, Jr., P. C. Kronfeld (Emeritus), W. F. Moncreiff (Emeritus).
- Associate Professors: J. E. McDonald (Acting Head of Department), C. Apple (Emeritus), E. R. Folk, E. B. Fowler (Emeritus), M. Frenkel, J. S. Haas, H. Q. Kirk, E. A. Pushkin, D. Snydacker, G. D. Theobald (Emerita), M. J. Urist, T. N. Zekman.
- Assistant Professors: R. L. Allen, D. V. L. Brown, M. E. Carroll, A. D. Curnyn, W. E. Deutsch, R. C. Ey, E. W. Fantl, L. Feinberg, L. R. Fordon, R. R. Herbst, J. A. Kaplan, J. J. Kelly, D. J. Kozil, B. M. Krimmer, A. Light, I. Menachof, M. T. Miller, V. P. Oleari, M. F. Rabb, B. A. Russman, S. M. Schall, K. J. Scheribel, M. L. Stillerman, J. Tatar, A. E. Tennebaum, K. E. Ticho, H. L. Wilder.

- Associates: V. M. LEECH (Emeritus), B. SPIRO, J. TRESLEY.
- Instructors: L. I. Chapman, J. S. Close, V. F. Feldman, G. Fitzgerald, S. A. Fox, C. Garfinkle, E. F. Grabow, M. H. Greenberger, A. C. Hurt, M. C. Kraff, L. J. Kut, M. P. Lipsich, D. D. Moran, R. J. Nowicki, D. S. Robbin, L. J. Roberts, W. A. Scanlon, P. J. Schmidt, C. M. Vygantas.
- Assistants: A. Barron, E. B. Bercovici, M. J. Berman, B. D. Fick, M. A. Gerstein, F. R. Guastella, J. M. Hattenhauer, S. J. Herman, F. U. Huamonte, A. M. Ilkiw, C. B. Lee, R. W. Lennon, M. Linwong, B. W. Miller, S. P. Nickel, R. W. Posegate, J. B. Thompson, J. A. Winchester.

The goal of the instruction in ophthalmology is to enable the student to integrate the principles of basic science into the problems of ocular disease, to learn about the techniques of examination of the eye, to know the ocular manifestations of systemic disease, and to recognize the common ocular diseases likely to be encountered in general practice.

This instruction is given in the form of lectures and multilithed notes during the third and fourth years.

Supplemental practical work in ophthalmology (clerkship in ophthalmology) is offered during the alternative quarter.

Required Clinical Courses

350. Clinical Lecture Program. Illustrated lectures and multilithed notes covering (1) eye manifestations of general systemic disease, and (2) ocular diseases commonly encountered in the general practice of medicine, are presented in a series of one-hour lectures as part of the Clinical Lecture Program. Su, F, W.

Alternative Quarter Program

399. Clerkship. Participation (under supervision) in clinical and hospital activities of the department, including attendance at clinical conferences, in specialty clinics and surgery. Limited to eight students a period. Full time for two, four, six, or twelve weeks; Su, F, W, and Sp.

ORTHOPAEDIC SURGERY

- Professors: R. D. Ray (Head of Department), F. W. Hark (Emeritus), C. N. Lambert.
- Associate Professors: T. A. Fox, C. V. Heck, F. M. Howard, F. G. Murphy, (Emeritus), C. J. O'Neill, C. Scuderi, S. J. Shafer, F. Shapiro.
- Assistant Professors: J. P. Ahstrom, P. C. Altner, H. W. Apfelbach, R. Bar-

MADA, R. L. DEWALD, J. O. GALANTE, W. A. HARK, W. F. HEJNA, B. H. HUNCKE, R. L. JACOBS, L. W. KOLB, R. T. LIDGE, W. A. MARSHALL (Emeritus), R. P. MEANY, W. MELTZER, R. J. PELLICORE, I. M. SIEGEL, H. E. TURNER (Emeritus).

Associates: J. T. Bianchin, S. D. Brandon, K. O. Fetrow, W. H. Newman, R. J. Rothman, J. S. Shapiro.

Instructors: H. L. Barash, R. S. Ellis, Jr., C. H. Fossier, D. V. Girzadas, G. S. Kane, J. M. Kirsch, R. A. Lueck, M. G. Schiller, M. J. Schrodt, P. Sri-Uthayopas.

Assistants: J. E. Alexander, R. L. Cram, M. J. Denker, J. S. Gimbel, K. N. Kuo, E. A. Lembert, D. L. Levine, R. B. Ressman, J. C. Ritscherle, W. F. Schroeder.

Orthopaedics may be defined as that branch of medicine that is concerned with the study, prevention, and treatment of disorders of the locomotor apparatus. The aim of the departmental undergraduate teaching program is to give the medical student an insight into the differential diagnosis of some of the common diseases, deformities and disabilities affecting the extremities and spine. These include genetic disorders, disorders of growth and metabolism, inflammation and infections, metabolic disorders, trauma, neoplasms, psychosomatic problems, and idiopathic conditions. An attempt is made to relate the various basic sciences to the clinical problems the student may encounter and to correlate the approaches of other specialties including internal medicine, surgery, pediatrics, and the various paramedical services. In addition to a basic understanding of the foregoing conditions, an effort is made to help students develop those skills essential for conducting an examination, arriving at a differential diagnosis, and undertaking treatment including application of casts, braces, traction, medical management, and simple surgical skills.

During the sophomore year, the department, in cooperation with the Department of Internal Medicine, presents a method for examining a patient with a musculo-skeletal problem.

Subsequently, during the clinical years, the clerkship provides students with an opportunity to see some common orthopaedic conditions in adults and children, to participate in the operating theatre and the outpatient clinic, and to follow patients on the inpatient service.

Seminars are provided to cover regional examination of the locomotor apparatus, common office problems and procedures, trauma, and rehabilitation.

A special opportunity is offered at Cook County Hospital in the diagnosis and treatment of acute trauma. For interested and qualified students, an alternative quarter program has been designed to permit advanced study in any of the several areas related to orthopaedics.

Postgraduate study is provided through a four-year residency program in orthopaedics leading to national board eligibility.

Required Clinical Courses

- 350. Clinical Orthopaedic Surgery with Demonstrations. As part of the Clinical Lecture Program orthopaedic problems and the general principles of treatment are considered and the basic principles of fractures and their treatment reviewed. Su, F, W, and Sp.
- 376. Clerkship. Observation and study of orthopaedic cases, adult and children, together with practical demonstrations of orthopaedic conditions, ward rounds, seminars, and surgical and outpatient procedures. Three weeks; Su, F, W, and Sp.

Alternative Quarter Program

399. Clinical Clerkship. Opportunity is provided for participation in the activities of the orthopaedic department including the emergency room, special clinics, research, and seminars. Students electing this course may spend the full period on the fracture service at Cook County Hospital, on the Orthopaedic Service at Presbyterian-St. Luke's Hospital, at the West Side Veterans Administration Hospital, and the University of Illinois Hospital, in the research laboratories of the department, or the quarter may be divided into various combinations of the foregoing depending on the specific interests of the individual student. This course is offered as a further introduction to diagnostic problems, methods of treatment, and principles of research as applied to the locomotor systems. Prerequisite: Orthopaedic clerkship. F, W, and Sp.

Required Courses — Other Colleges and Schools

Occupational Therapy 324. Orthopaedic Conditions. School of Associated Medical Sciences.

OTOLARYNGOLOGY

- Professors: A. H. Andrews, Jr. (Head of Department), R. A. Buckingham, A. J. Derbyshire, S. A. Friedberg, P. H. Holinger, F. L. Lederer (Emeritus), A. Loewy, J. J. O'Neill, E. M. Skolnik, B. J. Soboroff, W. H. Theobald (Emeritus), N. Torok, O. E. Vanalyea (Emeritus), L. J. Wallner.
- Associate Professors: W. W. Dalitsch (Emeritus), E. A. Friedman, M. E. Joseph, R. B. Lewy, G. S. Livingston (Emeritus), R. E. Marcus, S. M. Morowitz (Emeritus), L. T. Tenta.
- Assistant Professors: K. Aimi, D. F. Austin, M. D. Beers, H. Blumenthal, E. L. Chainski (Emeritus), A. J. Coombs (Emeritus), D. O. Dale, C. R. Elliott, F. X. Frueh, L. D. Greene (Emerita), J. Gyorkey, T. G. Hiebert, C. Jeantet, H. I. Laker, S. J. F. Landa, M. D. Mansueto, F. R.

NYKIEL, W. H. PLOTKIN, A. L. RATKO, E. A. RAZIM, L. A. SATZ, L. F. SCARAMELLA, J. A. SCHILD, K. H. SIEDENTOP, M. E. TARDY, JR., W. F. WALDROP, J. A. WEIDEMANN.

Associates: R. A. Casciaro, R. A. Eggert, A. G. Kodros, R. A. Kowal, S. B. Osenar, W. A. Smiley (Emeritus).

Instructors: G. E. Guemmer, A. J. Harris, D. C. Hood, S. D. Konik, C. R. Marks, S. B. Mer, B. A. Pastorek, L. B. Rodman, M. N. Saberman, H. L. Schotland, C. P. Scott, A. C. Sirugo, J. D. Van Nuys.

Assistants: K. Azem, N. F. Blinstrub, R. F. Bulger, D. D. Caldarelli, N. F. Cantor, J. G. Cravens, J. J. F. Drammis, Jr., G. I. Goldstein, R. A. Guziec, R. J. Kelly, R. J. Levin, J. E. Lipton, D. G. Maurizi, R. M. Meyers, V. A. Middleton, H. P. Newburger, P. H. Nutley, C. C. Robinson, R. G. Stagman, C. J. Wine, W. D. Youngerman.

Otolaryngology involves the study of the upper respiratory system, the upper digestive tract, and the special senses of speech, hearing, and olfaction in health and in disease. This includes the social, physiological, and physical aberrations of function as they relate to otology, rhinology, laryngology, bronchoesophagology, maxillofacial surgery, otoneurology, and communication sciences.

Otology, the study of the functions of the ear, not only has for its primary aim the diagnosis and treatment of diseases of the ear, but also the equally important facet of the social rehabilitation of the deaf and hard of hearing. So great are the social implications of disturbed speech and hearing, that audiology forms an important division of otolaryngology. Bronchoesophagology concerns itself with direct visualization, diagnosis, and therapy of conditions which affect the esophagus, larynx, and tracheobronchial tree.

The primary aim is to teach the undergraduate competent examining techniques in order to recognize disease or malfunction in these systems and to evaluate the method of arriving at a correct diagnosis so that therapy may be intelligently applied.

For the practicing otolaryngologist, courses are offered in bronchoesophagology and in current trends in otorhinolaryngology. Those desiring to specialize in otolaryngology may enroll in a basic course designed to teach the principles and the methods of the specialty. Residencies, under departmental supervision, are available in the University of Illinois Hospital, the Illinois Eye and Ear Infirmary, Presbyterian-St. Luke's Hospital, and Hines Veterans Administration Hospital.

The following divisions are represented: (1) otology, (2) rhinopharyngology, (3) laryngology and bronchoesophagology, (4) communication sciences, (5) maxillofacial surgery, including neoplasms of the head and neck, (6) plastic surgery of the head and neck, and (7) neurotology. The required course of study is so arranged that didactic instruction precedes practical application of the specialty, emphasizing its relation to general medicine in a total person concept. Physical examination of the ears, nose, and throat is taught in the

second year. As part of a pediatric clerkship in the third year, these diagnostic methods are given special emphasis with reference to clinical states in infants and children. In the fourth year, instruction is provided in the basic principles of the specialty by lectures augmented by conferences in small groups, and through opportunities to apply the principles of diagnosis and treatment in outpatient clinics where the student is taught by direct contact with patients.

Required Clinical Courses

350. Clinical Instruction in Ear, Nose, Sinuses, Pharynx, and Larynx. Surgical anatomy, physiology, applied pathology, and treatment are discussed in a series of lectures as part of the Clinical Lecture Program. Su, F, and W.

Alternative Quarter Program

399A and 399B. Clerkship. Otolaryngology is concerned with the physiologic, physical, and social aberrations of function as they relate to otology, rhinology, laryngology, bronchoesophagology, maxillofacial surgery, otoneurology, and audiology. Identification of normal structures by competent examining techniques results in recognition of disease or malfunction of systems and regions included in these disciplines of the speciality.

The alternate quarter clerkship program includes student participation in the history-taking and recording examination, diagnosis and treatment of acute conditions, planning for the management of chronic states, and the follow-up care of patients in the outpatient clinic and hospital. The experience is conducted under the supervision of the attending staff assisted by members of the house staff who act as preceptors. Students are assigned at the University of Illinois Hospital and the Illinois Eye and Ear Infirmary. An opportunity is available to assist in the outpatient department, in the hospital, in the research division, in the otoneurology laboratory, on ward rounds, and when appropriate, in surgery. The speech and hearing staff in the Center for the Study of Communicative Processes at the Illinois Eye and Ear Infirmary demonstrates the special aspects of diagnosis and treatment. Departmental and interdepartmental conferences and seminars are an integral part of the student's opportunity and experience. Didactic periods are included in the curriculum. Closed circuit television programming is included as a teaching device.

Length of course: six weeks, five afternoons per week. 399A Su, F, W, and Sp. Four weeks, five full days per week. 399B Su, F, W, and Sp.

Elective Courses - Not for Credit

360. Correlation Clinic in Communication Problems. The course is divided into a pair of two-hour meetings on each of six topics. At the first meet-

ing, the topic is given in the form of patient complaint for which the group develops all possible hypothetical explanations. The group then talks with the patient to expand or limit these hypotheses. At the second meeting, the staff presents clinical work-up of this patient followed by open discussion. The goal is to develop the students' capacity to generate and test his ideas and to work out an epistemology of medicine. Two hours a week; Sp.

PATHOLOGY

Professors: C. A. Krakower (Head of Department), J. P. Aver, G. A. Bennett, H. R. Catchpole, E. L. Cheatle, B. Chomet, R. Eisenstein, G. M. Hass, G. C. Johnson, E. P. Leroy, S. A. Levinson (Emeritus), E. A. McGrew, G. Milles, C. L. Pirani, K. Stern, M. A. Swerdlow, J. R. Thompson, J. P. Waterhouse.

Professorial Lecturer: C. E. CAHN-BRONNER (Emeritus).

Associate Professors: F. C. Bauer, G. W. Changus, R. A. Clasen, D. E. Eshbaugh, W. R. Fleischer, V. R. Jablokow, J. J. Kearns (Emeritus), A. Learner, L. Ozzello, N. Ressler, R. D. Smith, F. J. Tenczar, J. Valaitis, R. Wong.

Assistant Professors: R. W. Alexander, S. S. Barron, J. T. Bolan, P. S. Coogan, J. R. Dainauskas, G. Gyori, J. E. Habegger, R. M. Heredia, K. V. Karachorlu, J. R. Kraft, A. W. Miller III, J. A. Mir, J. C. Pritchard, A. J. Rabinovitz, A. M. Ring, U. F. Rowlatt, M. V. Vye, L. G. Wolfe.

Lecturers: F. A. O. Eckner, F. E. Hirsch (Emeritus), L. S. King, M. Lev.

Associates: E. J. GOLDMAN, S. A. GREENSPON, R. W. SOMMER.

Instructors: E. I. Axelrod, M. L. Christ, L. Gerardo, I. L. Golden, D. Graziani, E. Ho, E. D. Hobart, Jr., J. J. Hosek, H. Krolikiewicz, R. E. Lee, M. Ochoa, E. V. Pellettiere, P. B. Pilar, F. Serna, P. A. Szanto, P. A. Taschini, V. S. Teves, C. Torres, Sr.

Assistants: L. Choudhury, G. Flores, F. Y. Hong, Y. Konakci, E. D. McClain, J. S. Rosenwald, R. A. Scott, Jr., J. Tadano, C. Torres, Jr., Z. R. Valdez, V. F. Wong, S. Yousefi.

Pathology is that branch of natural science which is concerned with disease, its essential nature, its causes and development, and the structural and functional changes occurring in the living bodies in which the disease exists.

Thus, following courses in anatomy, biochemistry, and physiology in the first year, the student is prepared to begin the study of pathology. General pathology is given during the first quarter of the second year. Special pathology and clinical pathology are presented in a single integrated program during the

second and third quarters. A course in surgical pathology, given in collaboration with the Department of Surgery, is offered in the clinical years.

Required Courses — Second Year

325. General and Clinical Pathology. The basic principles of pathological processes, including tissue injury and repair, inflammation, circulatory disturbances, retrograde processes, and tissue responses to specific infectious agents and neoplasms, are considered in the first part of the course. In the latter part, the disease processes affecting each organ and anatomic system are considered in greater detail. The pathologic physiology and biochemistry of disease are closely integrated with the morphologic changes. Essential diagnostic laboratory procedures are discussed as to their purpose and the manner of evaluating the results. The laboratory exercises are designed to correlate and interpret the gross and microscopic changes occurring in diseased tissues. Essential diagnostic laboratory tests are performed in relation to the diseased organ or system under study. Ten hours each week, F; nine hours each week, W; nine hours each week, Sp. In addition, each student is expected to attend at least seven autopsies during the year for a total attendance of twenty-one hours.

Alternative Quarter Program

399. Clerkship in Pathology. Students electing this clerkship may spend one or two alternate quarters variously apportioned between or solely confined to anatomic pathology or clinical pathology. A student may also elect six weeks in any one of the alternate quarters for instruction either in anatomic pathology or clinical pathology. The clerkship in anatomic pathology includes participation in autopsy work, surgical pathology, and in exfoliative cytology. The clerkship in clinical pathology emphasizes laboratory findings and their clinical correlations. Instruction in depth is also provided for diseases of certain organs or systems. On the other hand, students may devote both alternate quarters and the vacation quarter towards acquiring research experience and graduate school credits towards a higher degree. During the regular clerkship students are expected to attend the departmental conferences in pathological anatomy and clinical pathology. Su, F, W, and Sp.

Required Courses — Other Colleges and Schools

Medical Technology. Participation in planning and teaching. School of Associated Medical Sciences.

Occupational Therapy 324. Introduction to Pathology for Students in Occupational Therapy. School of Associated Medical Sciences.

Pathology 101. Principles of Pathology. College of Nursing.

Pathology 605. General Pathology. College of Dentistry.

PEDIATRICS

Professors: I. Schulman (Head of Department), R. E. Behrman, A. D. Biggs (Emeritus), I. P. Bronstein (Emeritus), C. D. Butler (Emeritus), J. R. Christian, J. Greengard (Emeritus), H. J. Grossman, C. J. Harrison, S. J. Hoffman, E. F. Lis, R. A. Miller, D. J. Pachman, I. M. Rosenthal, H. N. Sanford (Emeritus), N. G. Shaw, R. Spaeth.

Associate Professors: S. H. Barron, L. Breslow, H. G. Bucheleres, H. P. Elam, S. P. Gotoff, L. J. Halpern (Emeritus), A. R. Hastreiter, G. R. Honig, J. S. Hyde, H. Leichenger (Emeritus), L. B. Lendrum, M. M. Lewison, M. A. Limosani, R. Medenis, R. S. Mendelsohn, R. S. Pildes, J. Schulz, C. L. Swarts, H. Weiss, N. T. Welford (Emeritus), D. H. Welker.

Assistant Professors: V. M. Alcalde, V. S. Angara, P. N. Baker, A. Bohning (Emerita), M. B. Budzeika, J. S. Y. Chao, E. H. Christopherson, W. L. Crawford (Emeritus), D. G. Cunningham, C. W. deLannoy, Jr., A. Y. de Ramos, V. Y. DeYoung, M. A. Fernandez, M. Frank, J. B. Hall, E. W. Isaacs, M. R. Jackson, M. Jacobson, C. H. Jones, Jr., L. E. Keith, D. E. Knoblock, H. B. Lander, E. Lassers, R. B. Mack, S. Metrick, E. S. Moore, S. D. Morales, B. B. Newman, M. Nitzan, E. Page-El, A. L. Pisani, M. J. Polniaszek, K. J. Prec, W. Romuk, M. O. Sacks, R. A. Seeler, M. E. Serratto, I. Shmigelsky, N. P. Singh, R. Y. Snow, C. E. Stepan, S. M. Thomas, L. H. Trevino, A. A. Wolf.

Lecturers: W. R. Dammers, H. McCulloch (Emeritus).

Associates: J. B. Paton, R. Snitcowsky, I. Warren.

Instructors: M. M. Boschman, B. S. Celewycz, H. H. Cibul, D. E. Fisher, B. D. Frisbie, B. Green, W. T. Harnett, J. W. Hofer, E. K. Isaacson, Z. Jedliczka, E. Jung, C. A. Kallick, R. J. Kiley, G. P. Kirkpatrick, D. T. Lim, C. A. Limp, V. M. Lo Priore, J. K. Mercer, W. C. Miller, A. E. Nelson, K. B. Nelson, E. T. Neuhauser, A. A. Perez, I. L. Perez, A. Saed, R. H. Stine, R. E. Vitullo, E. I. Yahiro.

Assistants: J. B. Abella, L. C. Aschinberg, G. C. Asrow, R. C. Balagtas, E. C. Cabana, M. R. Detoffoli, L. R. Dimaano-Floro, M. Goldman, S. Harb, R. J. Hart, D. M. Hoffman, M. A. Hruby, S. A. Libit, S. Lolekha, A. C. Lugay, P. A. Mohr, G. Murti, S. J. Neuwelt, O. C. Paras, H. Pellman, D. J. Pruzansky, B. Santucci, K. H. Shah, S. Voraphot.

The major portion of instruction in pediatrics is given in the third year by means of a twelve-week clinical clerkship devoted to the study of care of infants and children. During the clerkship each student spends six weeks on an inpatient pediatric service and six weeks in a pediatric outpatient clinic. Students are assigned to the Pediatrics Department at the University of Illinois Hospital, to the Pediatric Division of Presbyterian-St. Luke's Hospital,

and to the Cook County Children's Hospital. During the inpatient service the student is placed in intimate contact with the problems of diagnosis and treatment of the sick child. In the outpatient clinics emphasis is placed on the ambulatory patient and on preventive pediatrics as demonstrated in well-baby clincs. In each portion of the clerkship the history and physical examination of the patient are performed initially by the student, following which the case is discussed with an instructor. By having six continuous weeks on the inpatient service, the opportunity for following the course of patients is afforded. In the outpatient department the student is assigned a new patient daily as well as the return visits of patients he has previously seen. Whenever possible the student is encouraged to participate in diagnostic and therapeutic procedures which are performed on his patients.

On the wards the student participates in ward rounds, seminars, and special conferences which are conducted by the resident and attending staffs. At the University of Illinois Hospital student seminars in pediatrics are held regularly during which case presentations are made by the student for discussion with members of the faculty.

During the clerkship small groups of students also receive instruction at the Cook County Contagious Hospital and at the Illinois State Pediatric Institute, thus providing experience in communicable and neuropsychiatric problems of children.

Throughout the clerkship the processes of normal physical and emotional growth and development are emphasized, as are the total implications of illness on the child and on his family.

Required Clinical Courses

- 350. Clinical Lecture Program. The department contributes substantially to the integrated lecture program in clinical medicine which begins in the spring of the second year and extends throughout the first three quarters of the clinical years. Initially the series stresses the physical and psychological growth and development, nutrition, and the special problems of the newborn infants; later the major diseases of children highlighting the comparative aspects of diseases in children and adults. Su, F, W, and Sp.
- 351-352. Clinical Clerkship. Conducted at Cook County Hospital, Presbyterian-St. Luke's Hospital, and the University of Illinois Hospital. Six weeks of inpatient ward service and six weeks of outpatient pediatric clinic service. Thirty-five hours each week; Su, F, W, and Sp.

Alternative Quarter Program

398. Advanced Tutorial Studies in Clinical Pediatrics. The student spends the entire quarter on the inpatient service at the University of Illinois Hospital, the Presbyterian-St. Luke's Hospital, or Cook County Hospital. He is given increased responsibility for care of patients, performance of diagnostic

tests, participation in ward activities, conferences, rounds, and seminars under the direction of the resident and attending staffs. Limited to two students per quarter at each of the hospitals. Su, F, W, and Sp.

- 399. Pediatric Sub-Specialties and Research. The student spends the entire quarter in one of the subdivisions of the Department of Pediatrics devoted to a particular field. He participates in the special diagnostic procedures performed in the individual laboratories as well as in the research program of each. The student also participates in the rounds, conferences, and clinics devoted to the sub-specialty. The following divisions in the Department of Pediatrics accept students:
 - 1. Hematology University of Illinois Hospital
 - Cardiology University of Illinois Hospital; Cook County Children's Hospital
 - 3. Cardiology Presbyterian-St. Luke's Hospital
 - 4. Endocrinology and Metabolism University of Illinois Hospital; Cook County Children's Hospital
 - 5. Newborn Physiology University of Illinois Hospital
 - 6. Neurology University of Illinois Hospital
 - 7. Cytogenetics University of Illinois Hospital
 - 8. Immunology University of Illinois Hospital
 - 9. Nephrology University of Illinois Hospital

A maximum of two students per quarter may be enrolled in each division. Su, F, W, and Sp.

Required Courses — Other Colleges and Schools

Occupational Therapy 324. Pediatric Occupational Therapy. School of Associated Medical Sciences.

PHARMACOLOGY

Professors: K. R. Unna (Head of Department), R. R. Llinas, W. R. Martin, E. W. Maynert, M. P. Schulman, T. R. Sherrod.

Associate Professors: E. G. Anderson, H. Feinberg, T. J. Marczynski, B. P. Salafsky.

Assistant Professors: R. D. GREEN, L. ISAAC.

Lecturers: V. A. Drill, H. Isbell, I. H. Slater.

Research Associate: H. KOHEI.

Pharmacology is that branch of medical science which deals with the qualitative and quantitative aspects of the action of drugs upon living organisms. The required courses in pharmacology are specifically designated to acquaint the student with the properties and mechanisms of action of drugs used

in diagnosis, prevention, and treatment of disease, thereby providing a rational basis for therapy.

Modern pharmacology embraces many areas such as pharmacodynamics, chemotherapy, toxicology, drug metabolism, psychopharmacology, and pharmacotherapeutics. Pharmacodynamics is the study of the effects of chemical agents on cell function by experimentation on living tissues ranging from cell fractions to the whole organism; these drug-induced alterations in function and metabolism are measured by methods which are common to pharmacology, physiology, and biochemistry. Chemotherapy is the study of selective toxicity of drugs for microorganisms and parasites; studies of compounds designed to exert a selective toxicity for neoplastic cells form the basis of cancer chemotherapy. Toxicology concerns itself with the noxious action of chemical compounds and the means of combating their inimical effects. Psychopharmacology explores the effects of drugs on mood and behavior employing, among other procedures, psychometric methods developed by psychologists. Pharmacotherapeutics deals primarily with the clinical use of drugs, their action, effectiveness, and indications and contraindications in treating patients presenting signs and symptoms of abnormal functions.

It is evident that pharmacology is interwoven with all medical sciences. A clear comprehension of the chemistry of drugs and the biochemical and physiological response which they may influence is prerequisite to the interpretations of pharmacodynamics. Comprehension of the effects of drugs on pathological processes requires a clear understanding of the normal anatomy and the pathology of the structures affected.

Pharmacology is also closely connected with all branches of clinical medicine; rational medication is based upon accurate diagnosis and a concise knowledge of the action of the drug prescribed, either to combat the cause of the disease or to correct a dysfunction caused by the disease.

Required Courses — Second Year

325-326. Pharmacology, Toxicology, and Chemotherapy. Lectures and discussion periods, W and Sp; three-hour weekly laboratory, W; two-hour weekly demonstration, Sp.

Alternative Quarter Program

The department offers a tutorial program of advanced courses and research training in pharmacology to qualified students. Students are encouraged to register with the Graduate College to obtain credit toward a graduate degree. A combined program is offered in which they may obtain research experience and earn a M.S. or Ph.D. degree in pharmacology while pursuing their medical curriculum. For details of requirements and description of the following courses, consult the catalog of the Graduate College:

- 402. Biochemical Mechanisms of Drug Action.
- 404. Neuropharmacology.

- 405. Advanced Topics in Cardiovascular and Renal Pharmacology.
- 406. Rational Application of New Therapeutic Agents.
- 408. Metabolism of Drugs.
- 409. Chemical Structure and Biological Activity.
- 410. Molecular Basis of Cardiac Drug Action.
- 420. Pharmacology of Receptors, Neurones and Synapses.
- 421. Pharmacology of Central Integrative Processes.
- 423. Pharmacology of Behavior.
- 425. Pharmacology of Catecholamines.
- 426. Pharmacology Putative Transmitters.
- 491. Pharmacological Seminar.
- 493. Research in Pharmacology.

PHYSICAL MEDICINE AND REHABILITATION

Professors: D. I. Abramson (Head of Department), E. E. Gordon, H. W. Kendell, R. R. Wasserman.

Associate Professors: L. A. AKOPIANTZ, K. H. KOHN.

Assistant Professors: M. A. Indreika, R. S. Oryshkevich, R. Pribyl, C. D. Schwab, D. J. Wasserman.

Lecturer: L. B. NEWMAN. Instructor: J. M. Ruess.

Assistants: M. K. FARD, B. RICKERT, J. R. TANDOC.

Physical medicine and rehabilitation is concerned with the application of physical agents for diagnostic and therapeutic purposes. The physical and other properties of heat, light, electricity, water, massage, and exercise are employed for the prevention of deconditioning, mobilization of joints, increase in strength, power, and endurance, for muscle re-education or improvement in general health and physical fitness. The techniques and procedures of physical medicine assist in the maximal utilization of residual abilities for total rehabilitation purposes. They include training in the physical skills required for independent living. Among the special services offered by the department are electrodiagnosis and electromyography.

Alternative Quarter Program

398. Advanced Clinical Clerkship in Rehabilitation Medicine. The purpose is to give the student extensive exposure to the field of rehabilitation medicine. It is intended to emphasize instruction in the various diagnostic tools and in the different treatment programs, utilizing patients in the hospital and in the clinic. The course takes the form of a twelve-week, full-time clerkship. Su, F, W, and Sp.

399. Practical Application of Physical Medicine and Rehabilitation. This course is intended to acquaint the student with the physiologic and clinical basis for the use of physical therapeutic modalities and of rehabilitative procedures. Instruction in the various diagnostic tools and in the different treatment programs is emphasized. Hospital and clinic patients are utilized. Two-week, full-time clerkship; Su, F, W, and Sp.

Required Courses — Other Colleges and Schools

Occupational Therapy 324. Physical Medicine and Rehabilitation for Occupational Therapy Students. School of Associated Medical Sciences.

PHYSIOLOGY

Professors: A. V. Wolf (Head of Department), A. F. Grimm, R. C. Ingraham, A. C. Ivy (Emeritus), J. P. Marbarger, A. Omachi, N. B. Schwartz, W. V. Whitehorn.

Associate Professors: P. O. Bramante, R. Greenberg, S. F. Marotta, A. A. Rovick.

Assistant Professors: P. L. HAWLEY, R. F. LOIZZI, J. A. MICHAEL, T. M. SABA.

Lecturer: H. E. Himwich (Emeritus).

Research Associate: T. GLONEK.

Instructors: W. J. Buckley, L. J. Heller.

Physiology is the study of living organisms, organs, tissues, and cells with emphasis on their normal functions. It utilizes the knowledge, theories, and techniques of the physical and mathematical, as well as the biological sciences, but it remains a strict discipline with a flavor of its own.

The teaching program for undergraduate students of the College of Medicine treats mainly human and mammalian physiology. It provides a sound basis for the remainder of the curriculum and for subsequent medical practice or graduate study. Through this program the student acquires: (1) a body of knowledge in the broad discipline of human physiology appropriate to his ultimate goal of becoming a physician, (2) an understanding of relevant facts, principles, theories, and methodologies, (3) ability to translate, analyze, interpret, and utilize physiologic information, and (4) a professional attitude of responsibility for his own learning and conduct, and a skill in locating information independently.

Interested students are encouraged to pursue advanced work in physiology in the Graduate College program of the department. Opportunities to do so may be explored in consultation with staff members. Extended course offerings of the Department of Physiology are listed in the Graduate College catalog.

Required Courses — First Year

- **301. Human Physiology.** An overview of physiology with special emphasis on fundamental principles. Lectures, conferences, and demonstrations. Three hours each week; F.
- **302. Human Physiology.** Continuation of Physiology 301. Physiology of the circulation, gastrointestinal tract and liver, temperature regulation and endocrines, and radiation. Lecturers, conferences, demonstrations. Average of four hours each week; W.
- **303. Human Physiology.** Continuation of Physiology 302. Physiology of the kidney, body fluids, central nervous system, and senses. Lectures, conferences, demonstrations, and laboratory. Seven hours each week; Sp.

Elective Courses - Not for Credit

360. Bioastronautics. To familiarize students with problems of exposing man and animals to the adverse environment of space. Emphasis is placed upon environmental physiology as applied to the space environment and the review of methods required to support life in this hostile environment. W.

Required Courses — Other Colleges and Schools

Physiology 201. Introduction to Human Physiology. College of Nursing.

Physiology 231. Human Physiology. College of Pharmacy.

Physiology 232. Human Physiology. College of Pharmacy.

Physiology 605. Human Physiology. College of Dentistry.

PREVENTIVE MEDICINE AND COMMUNITY HEALTH

- Professors: E. A. Lichter (Head of Department), H. C. Batson, B. L. Douglas, J. C. Lashof, M. H. Lepper, H. Medak, S. R. Rosenthal.
- Associate Professors: B. W. Carnow, C. E. Cunningham, T. C. Doege, H. P. Elam, A. Gelperin, E. K. Hudson, T. G. Hull (Emeritus), M. D. Levine, J. M. Levitsky, L. M. Levy, R. F. Locke, F. P. Paloucek, E. A. Piszczek, R. B. Shekelle, H. W. Spies, H. H. Steinberg,
- Assistant Professors: C. C. Doughty, J. H. Erickson, B. M. Hair, R. M. Heifetz, C. W. Klassen, K. E. Nelson, H. G. Ohrbach, S. Sobel, H. G. Sussman, J. M. Wolter, Q. D. Young.
- Lecturers: L. DeBoer, R. G. Martinek, C. M. Masserman, M. Passovoy, J. D. Porterfield.
- Associates: J. H. MEYER, P. W. TILLMAN, E. B. WILLIAMS.

Research Associates: W. F. Dove (Emeritus), E. Jacobs, L. S. Kletke, B. Lebovits, H. Lorenzi, W. I. Metzger, K. N. Tan.

Instructors: H. L. KLAWANS, C. LEVINE.

The objectives of the Department of Preventive Medicine and Community Health are to increase student awareness of the importance of hereditary and environmental determinants of health and disease with special emphasis on social and economic factors; to relate these determinants to the problems of the community and individual patient; to familiarize the student with available community agencies and systems of health care that are helpful in health maintenance and prevention and treatment of illness; to coordinate the student's knowledge of clinical preventive medicine; and to provide instruction in elementary epidemiology biostatics and evaluation of data.

The basic information in these areas is provided in lectures and demonstrations in the first and second years.

Required Clinical Courses

- 301. Introduction to Epidemiology and Statistical Inference. The primary objective of this course is to develop an understanding of the basic concepts, methods and purposes of epidemiology and of statistical inference including elements of data analysis, sampling, and design of experiments in the community aspects of disease and health. Three hours per week. Sp.
- 325. Preventive Medicine and Community Health. Clinical Lecture Program. Lectures and demonstrations in preventive medical and community health covering the principles of epidemiology, vital statistics, and prevention of disease are presented in the second year. Examples of topics are: host factors; environmental factors; natural history; community role; physician's role; primary and secondary prevention of the leading causes of death and illness in the United States. Principles of epidemiology are emphasized. Social psychological and economic determinants and correlates of disease are carefully considered. One hour a week. F, W, and Sp.

Alternative Quarter Program

399. Preventive Medicine and Community Health. Students may choose any of three programs. All three have in common a twenty-four hour course in principles of epidemiology and seminars on principles of preventive medicine. In one program the remainder of the time is spent in research with one of the study groups in the departments. Research experience in infectious disease, epidemiology, immunology, human behavior, and human genetics is offered. The second experience is a series of clerkships in infectious diseases in five hospitals coupled with study of the appropriate community agencies in this field. The third program is an organized study of various chronic diseases, utilizing appropriate community agencies, in

industrial health, health plans, cancer detection, and health promotion and education.

Required Courses — Other Colleges and Schools

Medicine 701. Preventive Medicine. College of Dentistry.

Nursing 201. Introduction to Public Health Science. College of Nursing.

Public Health 241. Public Health. College of Pharmacy.

PSYCHIATRY

Professors: M. Sabshin (Head of Department), P. Bailey (Emeritus), B. C. Bosselman (Emerita), H. T. Carmichael (Emeritus), R. D. Cartwright, F. J. Gerty (Emeritus), P. L. Giovacchini, E. A. Haggard, N. S. Jenkin, I. M. Josselyn (Emerita), J. W. Maas, P. E. Nielson, G. H. Pollock, A. P. Solomon (Emeritus), L. E. Tower (Emerita), V.G. Urse, J. Weinberg.

Associate Professors: H. R. Beiser, A. R. Benjamin, G. H. Borowitz, M. R. Bucher, S. Burack, A. G. Burstein, D. I. Cheifetz, D. C. Garron, J. E. Gedo, N. H. Greenberg, B. L. Greene, W. H. Haines (Emeritus), L. Halperin, J. S. Handler, J. W. Hanni, J. G. Hirsch, A. Kling, M. S. Krause, J. E. Kysar, R. J. Leider, R. G. McMillan, D. A. R. Morrison, H. L. Muslin, A. M. Robertson, R. E. Robertson, M. M. Rosenthal, A. K. Rosenwald, L. H. Rudy, A. L. Ruess, I. C. Sherman (Emerita), A. Shimbel, D. Solomon, W. D. Steed, J. S. Werry, D. G. Wright.

Assistant Professors: R. M. Abraira, C. H. Altman, S. Altschul, B. A. Anjam, C. M. Armstrong, B. Baittle, M. C. Barnett, L. Belinson, E. E. Benezra, J. C. Berger, H. E. Bernstein, M. S. Black, H. Blustein, R. R. Bolin, D. D. Brockman, M. Brown, J. A. Buettner, R. E. Bus-SELL, A. M. CASTELLANOS, S. CHAPLIK, H. J. COSTELLO, H. I. DIESENHAUS, P. Dolinko, R. C. Drye, D. Ehrlich, S. B. Eisen, F. F. Evans, J. A. Faw-CETT, A. FLARSHEIM, D. L. FOSTER, H. M. FREED, E. H. FUTTERMAN, D. Galich, J. P. Ginsberg, H. A. Greenberg, D. P. Gross, M. D. Gross, F. W. GWYER, J. E. HALASZ, I. S. HALPER, E. L. HARDY, I. D. HARRIS, G. Hefter, S. J. Heinze, N. L. Hoffenberg, G. K. Hoffman, M. G. HUGHES, P. ISRAEL, L. I. JACOBS, R. A. JENKINS, R. KARRER, J. I. KATZ, E. J. KINDER, M. KLOTZ, G. H. KLUMPNER, R. C. KOENIG, H. M. KOHN, C. H. Kramer, G. A. Lage, E. S. Lassers, F. Leavitt, V. S. Lebow, R. E. LeLievre, E. E. Lessing, R. S. Levine, S. Levine, R. S. Lindner, J. G. LOESCH, D. A. MARCUS, N. MASON, T. F. McGee, G. MESCHEL, C. MILLER, V. J. MINTEK, E. G. MOORE, G. MORAITIS, J. G. NEMECEK, R. W. NORDAN, A. H. NORTON, W. NYDZA, M. A. PARTIPILO, P. H. PEARSON, F. C. PERCE, G. L. Perkins, W. J. Pieper, H. G. Plotke, F. R. Racusen, K. G. Ranky, C. C. Rhead, D. L. Rosenberg, M. J. Rosenthal, H. L. Ruehr, A. D. Sable, L. Sadow, N. Schlessinger, M. J. Schwarz, H. M. Segenreich, P. R. Singer, A. J. Smith, A. T. Smith, G. D. Smith, J. G. Stelling, H. D. Strassman, H. W. Streicher, A. Suslick, T. E. TePas, T. T. Tourlentes, R. J. Thurnblad, E. P. Trager, T. J. Tucker, P. Tunkunas, E. R. Val, S. A. Victor, E. M. Wasserman, W. Weisdorf, S. Wexler, J. M. Whitman, H. Whiteley, D. C. Wilkerson, R. G. Wilkerson, K. L. Willrich, J. S. Winberg, R. I. Yufit, O. Zalis.

Lecturer: O. S. Walters.

Research Associate: G. B. Berkson.

Instructors: H. G. Alexander, T. Balsam, D. W. Buck, J. A. Cabala, W. D. Carlock, A. V. Charles, J. M. Cryan, R. E. Damptz, N. Demb, R. E. Drom, P. E. Ebenhoeh, E. S. Epstein, M. Freedman, J. P. Gerber, S. E. Ghattas, J. D. Grant, G. V. D. Guise, L. V. Kempton, D. L. Kerste, H. J. Klapman, D. L. Kuhl, H. J. Lane, R. M. Manek, D. B. Markovich, M. J. McCabe, R. N. Miller, V. Musonis, S. B. Riskus, G. A. Rogeness, J. F. Scharf, J. Schneider, D. J. Schroeder, R. R. Sipowicz, D. A. Trakas, C. E. Turk, J. J. Vazquez, M. Wigutow.

Assistants: E. S. Ackerman, L. B. Feldman, R. A. Greendale, B. A. Hanson, I. Hoffman, J. F. Hurley, S. Incorvia, R. S. Isenberg, W. D. Jacobs, D. C. Koukol, H. B. Levy, S. A. Libert, L. G. Lindow, G. Miller, J. W. O'Donnell, R. D. Ostrow, J. K. Paul, P. Phoungcherdchoo, A. C. Samuels, A. L. Skapars, P. L. Wang, J. M. Williamson.

Required Courses — First Year

310. Introduction of Concepts of Personality Development and Function. This introductory course focuses on the presentation of the basic concepts in psychiatry to understand patient behavior. Each concept is presented with special care to show its development from empirical data. Its goal is to provide an orientation by which the student may see the determining effects of various psychological, physiological, and familial forces on the individual. Engel's "Psychological Development in Health and Disease," Erickson's "Childhood and Society," and Brenner's "An Elementary Textbook of Psychoanalysis" constitute the requisite readings.

The early lectures deal with a presentation of the metapsychological points of view and of the basic concepts relevant to each of them.

The course approaches the formation of personality structure and function from a development framework. The evolution of behavior patterns from early infancy to adulthood is presented in terms of phase-specific features, and the role of maturational and instinctive forces is discussed in terms of interaction with various patterns of environmental experiences. The critical-

period hypothesis is presented in detail, and the effects of various types of phase-specific experience in terms of their influences on not only present adaptation but on subsequent later behavioral patterns are discussed.

The development of the psychic apparatus and its role as a regulating mechanism for handling internal and external stimuli is extensively developed from its undifferentiated formation in the neonate through development in adult personality structure.

The teaching is centered around the psychiatric patient interview, and the major goal of this course is to develop in the student an understanding and preliminary ability to utilize the patient interview as an instrument in understanding behavior. The teaching is organized around presentation of numerous videotapes of patient interviews to demonstrate the empirical data on which the basic concepts are based and their range and technique of application. One hour each week; F, W, and Sp.

311. Medicine and Behavioral Science. A basic course which brings together concepts from the relevant disciplines of social psychology, experimental psychology, medical sociology, cultural anthropology, economics, administrative science, and political science in order to provide medical students with a behavioral science perspective on the etiology, definition, and maintenance of disease and on patient care. Concepts covered include, for example, cultural variations in symptomatology, the sick role, professional socialization, the dying patient, the influence of institutional settings on patient care, status differentials in patient care. Lectures are supplemented by small group discussions and field experiences. Four hours each week. Sp.

Required Courses — Second Year

- 325. Introduction to Interviewing. This course attempts to demonstrate and help teach the importance of observational skills that clinicians must know and perfect during their activities as interviewers in the course of the diagnosis and treatment of patients. Further, it is an attempt to demonstrate model doctor-patient relationships useful for optimum diagnosis and therapy. The course is organized in the following manner: The initial four sessions are large group demonstrations of clinicians from different specialties performing interviews, using audio-visual aids (television, film clips). Preceding the live and filmed demonstrations of interviewing, there is a lecture on the principles of interviewing. Following the large-scale demonstrations, the entire class is divided into eight to ten smaller groups for the remainder of the quarter where again demonstrations of patients being interviewed are conducted. One hour each week; Sp.
- **326.** Introduction to Psychopathology. The processes of symptom formation and the techniques utilized in the case formulation of psychopathology. This course focuses on the study of the processes involved in psychiatric

symptom formation by showing with case histories the development of various psychiatric disturbances. Working directly with case material, the processes underlying the formation of different psychiatric disturbances are demonstrated, and the student is made familiar with the processes used to understand case history data by proper application of the necessary explanatory concepts. The traditional psychiatric syndromes are not presented as such but rather various examples of psychopathology, including neurotic disturbances, phobias, conversions, anxiety attacks, perversions, obsessions, compulsions, as well as psychotic symptomatology are presented in terms of the psychic processes involved in their formation.

This course utilizes the concepts from the first year and shows the technique and application to interview data and their use for understanding interview material in terms of genetic, economic, psychodynamic formulations. It develops further the concepts of stress, trauma, psychic economic imbalance, regression, fixation, conflict, anxiety, defense, unconscious fantasy, return of the repressed, and their use in description and understanding of symptom formation. By using application to case material it prepares the student for using clinical material of the subsequent interview course and this third year clinical working with patients.

In addition to the lectures, individual discussion groups are available. One hour each week; F.

Required Clinical Courses

351. Clinical Psychiatry. The goal of the clinical clerkship in psychiatry is to facilitate the learning of psychiatry so that the physician will become knowledgeable in the practice of psychiatry with all manner of patients. This goal implies the knowledge that physicians become aware of those psychiatric situations that are manageable by non-psychiatric physicians as well as those situations where referral to a psychiatric expert is indicated. This goal is being approached in the following manner: the clerkship is organized so that four teaching sessions per week are to be used for the purpose of giving experience in the diagnosis and management in the actual practice of interviewing patients, both adults and children. One other session will deal with a didactic unit dealing with areas of psychopathology and related areas best taught by seminars and lectures. Still another feature of the program will be experiences offered in observing acutely disturbed patients in the emergency admitting room and other experiences which can be obtained by night-call experiences.

The overview of the goal of actual learning experiences offered provides for competence by physicians in arriving at diagnostic formulations of patients with emotional disorders and then to be knowledgeable on the basis of experiences received for the management of emotional disorders which they will be competent to treat.

Due to an interest in giving actual experience in doing psychiatric medicine, a variety of settings are to be utilized, including Neuropsychiatric Institute, Presbyterian-St. Luke's Hospital, West Side Veterans Administration Hospital, Read Mental Health Center, Illinois State Psychiatric Institute, Institute for Juvenile Research, and Cook County Family Court.

Alternative Quarter Program

The alternative programs in psychiatry are designed to provide the student an opportunity to enlarge and broaden his knowledge and skills in psychiatry and the related behavioral science disciplines. To a large extent, students are encouraged to pursue individual interests, and a variety of research, clinical, or special study programs are available. There are four basic types of programs. All are full time.

- 399A. Introductory Alternate in Clinical Psychiatry. This program is given students who will be taking an alternative quarter in psychiatry before having had the basic clinical psychiatry clerkship. Emphasis will be on interviewing skills, psychiatric evaluation, and fundamental therapeutic tools. There will be seminars on basic clinical topics, case presentation, and supervised clinical work. There will also be an opportunity to become knowledgeable in some special area in psychiatry. Su and F. Twenty students per quarter.
- 399B. Advanced Program in Clinical Psychiatry. This program will offer clinical training above the level provided by the basic clerkship in psychiatry. Students electing this experience will have opportunity to exercise a higher level of competence and to assume more responsibility in the care of patients than was previously possible. The student will have opportunity to serve as a member of a psychiatric team. There will be seminars devoted to special subject areas in psychiatry, case presentations, guest presentations, observations of psychotherapy, and an opportunity to do a small research project or study in depth of some topic or problem area. W and Sp. Twenty students per quarter.
- 399C. Alternative Quarter Research Program. This program is designed to offer an opportunity to students who wish to participate in some current research or undertake an individual study under the direction of a staff member. There are a wide variety of ongoing research programs in the department, covering many behavioral sciences, and individual help and supervision is widely available. Students who elect to work in some ongoing research program will also be afforded an opportunity to gain a greater understanding of research methodology in the behavioral sciences and of the application of such methods to areas relevant to medicine. Su, F, W, and Sp. Twenty-two students per quarter.
- 399D. Special Studies in Psychiatry. This program is designed to offer the student a tutorial experience in an ongoing clinical or community project.

This program will bring the student into a close working relationship with a psychiatric team which is attempting to advance the state of knowledge or to apply advanced knowledge to a particular problem area. The student will be expected to make himself conversant with the project, its origin and evolution, its present state, directions and relation to similar work in other centers. These programs may be off-campus or even at another university. Examples of fields for special study include the educationally deprived child, the mental health zone center concept, or the community clinic in a deprived neighborhood. Su, F, W, and Sp. Ten students per quarter.

Elective Courses - Not for Credit

- 360. Survey of Developmental Research. Survey and analysis of research strategies employed in recent studies of developmental factors affecting normal and abnormal personality development. One hour each week; Sp.
- 361. Child Development Among the Urban Poor: Psychological and Social Aspects of the Development of the Urban Disadvantaged Child. This course gives an overview of the life experience of the disadvantaged urban child as it relates to the development of his academic achievement skills and his probable future life chances. It also provides a background for greater understanding of many of the day-to-day phenomena observed in the pediatric and medical clinics and places these phenomena in a broader context of the total life experience of these people. All classes; Sp.
- 362. Psychology of Perception and Distortion. After reviewing basic perceptual theory in its physiological context, this course will introduce the student to some of the stimulus determinants as well as the internally produced determinants of the perceptual process, and then to the perceptual distortions and the hallucinations which occur or can be induced in both normal persons and psychiatric patients. All classes; F.

Required Courses — Other Colleges and Schools

Occupational Therapy 324. Psychiatry for Occupational Therapy Students. School of Associated Medical Sciences.

RADIOLOGY

- Professors: R. A. Harvey (Head of Department), R. E. Buenger, J. W. Clark, H. C. Dudley (Radiological Physics), F. R. Hendrickson, M. Liberson, E. J. Liebner, D. J. Lochman, F. H. Squire (Emeritus), G. Valvassori, T. J. Wachowski.
- Associate Professors: F. S. Alcorn, D. S. Beilin (Emeritus), M. L. Bogdonoff, G. B. Greenfield, B. J. Hill, I. E. Kirsh, S. A. Leader (Emeritus), M. Melamed, A. M. Pantone, V. N. Patterson.

- Assistant Professors: B. Baker, L. Berlin, E. K. Borchart, B. D. Braun, A. Chung-Bin, J. W. Coleman, R. E. Darby, W. Doane, W. R. Dziadzka, E. W. Fordham, R. E. Hass, A. A. Halko, V. J. Harris, J. Heydemann, G. G. Hibbs, M. Hochhauser, F. L. Hussey, S. S. Langer, M.-S. Lee, G. R. Matthew, R. Moncada, S. H. Nasatir, G. L. Olson, J. Ovadia, S. Patel, G. V. S. Rayudu, P. B. Savory, V. S. Saxena, E. Schwarz, L. D. Scott, R. P. Taylor, H. N. Walgren, C. F. Whitney.
- Instructors: A. T. Au, J. F. Chambliss, Jr., H. P. Girard, D. L. Hebron, G. F. Hogan, K. I. Kemp, B. H. Kim, D. K. Lee, D. N. Sattem, J. M. Strubbe, E. R. Wilson.
- Assistants: R. E. DeBruin, R. G. Dirmish, J. T. English, B. B. Gosink, T. C. Kline, Jr., M. E. Morin, J. M. Nayden, S. O. Obaldo, K. D. Schmidt, J. D. Wilsey.

The aim of the teaching program is to familiarize the student with x-ray methods of analysis as applied to anatomy, physiology, and pathology. Continual emphasis is placed on the ever-increasing scope of radiology, the indications for, and limitations of, various diagnostic and therapeutic procedures, the physical, biological, and genetic principles underlying radiation hazards, and means of preventing or minimizing dangers.

The teaching program is continuous throughout the four years of medical school. The first-year students are offered TV film demonstrations, TV cine fluoroscopy demonstrations, and opportunity to consult faculty radiologists during the gross anatomy course to correlate motion, function, and relationships with dissection material. During the second year there is opportunity to correlate x-rays and autopsy findings.

Required Clinical Courses

- 350. Radiology. The department contributes substantially to the Clinical Lecture Program beginning in the spring quarter of the sophomore year and extending through the first three quarters of the clinical years. The diagnostic and therapeutic fields of radiology are covered. Emphasis is placed upon normal ranges, significant variations, and abnormal findings. The therapeutic portion includes actions and uses of radium, roentgen rays, and radioactive isotopes where appropriate, the biological effects of radiations, and public health aspects of atomic medicine and warfare; selected items of criminal detection and legal identity and responsibility are included.
- 374. Clinical Radiology. Logic and technic of x-ray interpretation are taught in small groups. Correlation of patients' symptoms and x-ray findings is made by clinical rounds. Detection and management of cancer is taught by demonstration and discussion in tumor clinics, wards, operating rooms, and the radiation therapy section. Given in conjunction with clinical clerkships. Su, F, W, and Sp.

SURGERY

Professors: L. M. Nyhus (Head of Department), A. G. Anderson, J. T. Apter, R. J. Baker, W. H. Cole (Emeritus), R. E. Condon, J. W. Curtin, F. A. DePeyster, G. DeTakats (Emeritus), W. S. Dye, Jr., S. G. Economou, T. C. Everson, E. H. Fell, R. K. Gilchrist, P. W. Greeley, W. J. Grove, C. C. Guy (Emeritus), W. H. Harridge, H. Javid, R. J. Jensik, O. C. Julian, H. T. Langston, D. M. Laskin, D. M. Long, Jr., G. O. McDonald, F. L. McMillan, E. M. Miller (Emeritus), O. E. Nadeau (Emeritus), J. H. Olwin, J. R. Orndorff, C. B. Puestow, W. H. Requarth, J. T. Reynolds, J. H. Schneewind, W. Schumer, D. P. Slaughter, H. W. Southwick, F. H. Straus (Emeritus), E. L. Strohl, E. A. Stuebner, P. Thorek.

Associate Professors: R. A. Atterbury, W. L. Barker, C. D. Branch, J. P. Cannon, T. K. Das Gupta, C. B. Davis, Jr., W. G. Diffenbaugh, A. E. Diggs (Emeritus), W. H. Eastman, L. P. Faber, B. Gans, E. Garside (Emeritus), W. J. Gillesby, J. A. Hunter, V. Z. Hutchings, F. R. Johnson, B. C. Kilbourne, J. L. Koppel, J. C. Kukral, S. E. Lawton (Emeritus), E. C. Lekan, M. Lopez-Belio, W. F. Lyon (Emeritus), J. D. Majarakis, J. H. Mason, O. G. McDonald, F. J. Milloy, C. W. Milloy, C. W. Monroe, R. G. Mrazek, H. Najafi, W. E. Neville, R. J. E. Oden (Emeritus), D. E. Ore, M. L. Parker (Emeritus), H. A. Paul, L. W. Peterson, J. G. Raffensperger, L. W. Schultz (Emeritus), L. Seed, (Emeritus), W. D. Shorey, R. F. Stokes, F. V. Theis (Emeritus), M. Weinberg, Jr., L. J. Witkowski.

Assistant Professors: B. L. Abrams, C. O. G. Almquist (Emeritus), R. E. Anderson, R. G. Ardekani, K. F. Bader, Jr., S. Black, E. A. Broccolo, C. D. Brown (Emeritus), R. G. Caldwell, R. S. Callaghan, R. C. Can-HAM, J. C. COOLEY, E. P. CRUZAT, M. P. CUNNINGHAM, G. O. DETARNOW-SKY, A. DOOLAS, J. W. FRISCH, M. I. GIBBEL, H. G. GIRAGOS, G. H. GLASS-FORD, I. GOLDFARB, E. G. GOLDIN, R. GREEN (Emeritus), V. L. GUYNN, R. G. HALEY, S. L. HAMILTON, R. C. HANSELMAN, H. G. HARDT, JR., R. A. HESS, J. F. HINKAMP, L. S. HOCHMAN, C. IRENEUS, JR., R. W. JAMIESON, J. M. L. JENSEN, O. M. JONASSON, A. KIRSTEINS, F. E. KNOCK, R. E. Knobe, A. G. Lawrence, O. S. Lenit, Jr., R. O. Lewis, W. J. McNabb, R. E. McNally, C. N. Mansour, K. L. Matson, R. L. Mehl, H. I. MEYER (Emeritus), G. S. Moss, P. Naffah, H. P. Nennhaus, W. E. OSTERMILLER, JR., R. J. OVERSTREET, M. PEPPER, S. PESKIN, E. R. PICKEN, J. H. PRIBBLE, O. V. RENAUD, R. W. ROESEL, D. L. ROSEMAN, A. L. ROSEN, E. B. SANBORN, JR., W. H. SCHMIDTKE, R. C. SCHULTZE, T. SELLETT, P. Shambaugh, J. M. Silver, D. M. Sohn, F. W. Strehl, R. A. Tarizzo, T. R. TENCZAR, M. M. WASICK, R. S. WEBB, C. Y. WERELIUS, R. B. WHITE, M. F. WITANOWSKI, R. C. YOUNGBERG.

Lecturer: H. P. JENKINS.

Research Associates: V. DeCastro, M.-S. Lin, C. R. Meals, A. Nakoyoshi, R. A. Zeineh.

Instructors: J. E. Abrahams, B. C. Bacon, R. M. Barone, C. T. Bombeck, C. Bradley, B. Brient, T. A. Brown, P. Buinauskas, R. J. Burnard, J. T. Curry, G. W. Fiscus, M. D. Goldin, S. A. Heine, G. B. Helfrich, J. W. Hengesh, J. L. Hoehn, R. T. Kessler, M. A. Leff, D. R. Lewis, J. R. Lindley, R. Maganini, J. J. Monks, R. L. Nichols, L. B. Pemberton, J. Pollitt, M. A. Pomerantz, M. M. Proffitt, E. Riveron, J. A. Sandrolini, H. G. Sellards, Jr., C. Serry, D. C. Siegel, P. T. Siegert, J. J. Smalley, O. P. Steinwald, Jr., R. R. Taube, S. Wilson, D. K. Wood, H. G. Zacheis.

Assistants: H. O. Andersen, P. W. Broido, J. F. Cusick, J. R. Clarke, W. C. DeWolf, D. J. DePinto, T. V. Geocaris, R. A. Goldenberg, C. D. Goodwin, L. J. Gott, R. M. Halford, W. H. Hart, J. C. Hastings, R. M. Johnson, J. R. Kirkpatrick, R. M. Levin, R. Masur, F. J. Merchant, R. W. Miley, O. Mowatt, S. G. Norman, P. H. Nutley, P. R. Radway, H. J. Richter, J. C. Roberts, L. V. Schoenfeld, A. Straus, J. H. Strauss, H. J. Sullivan, J. V. Wander, P. W. Wavak, R. D. Zehring.

The major functions in undergraduate teaching of surgery are to teach surgical diagnosis, preoperative and postoperative care, and the principles of operative technic. Several additional years of intern and residency experience are required to obtain sufficient training in operative technic and judgment to qualify as a surgeon.

In the sophomore year the student receives an introduction to surgery through conferences and lectures given partly as interdepartmental conferences by members of the surgical department and partly as an independent lecture series.

In the clinical years the student begins clerkship work on the ward where he takes the patient's history, performs examinations, and scrubs with the surgical team in the operating room when his patients come to operation. In the preoperative preparation of the patient and particularly in the postoperative care, the student comes in direct contact with the clinical application of physiology, biochemistry, and the other basic sciences. Half of the clerkship period is devoted to general surgery, the other half to two elective periods in surgical specialties.

Required Clinical Courses

350. Clinical Lecture Program. The department contributes substantially to the clinical Lecture Program which begins in the spring of the second year and continues through the first three quarters of the clinical years. Su, F, W, and Sp.

353. Surgical Clerkship. Students are assigned patients and are responsible for the history, physical examination, and the initial laboratory work. General (also emergency), thoracic, oral, pediatric, plastic, genitourinary, and vascular surgery as well as anesthesiology are included. Each student spends two hours per week in the Tumor Clinic. University of Illinois Hospital, Presbyterian-St. Luke's Hospital, Cook County Hospital, and West Side Veterans Administration Hospital. Forty-four hours each week; Su, F, W, and Sp.

Alternative Quarter Program

399. General Surgery and Surgical Specialties. These programs are offered in order to permit small groups of senior students during the alternative quarter to study in depth certain surgical specialties or to enter into research within the Department of Surgery. These courses are offered as full-time clerkships at either University of Illinois Hospital or Presbyterian-St. Luke's Hospital or at other hospitals associated with the University teaching program. The clerkships are not a repetition of the regular clerkship. Rather, the student spends all his time in a particular specialty area under the guidance of one faculty member. A student wishing to engage in research may carry out a problem of his own choice or participate in a faculty member's research program. The following clerkships and research experiences are offered: (1) research in surgery at the University of Illinois Hospital (tumor, general surgery, tissue culture, cardiovascular surgery, experimental gastroenterology, transplantation, and anesthesia) and at Presbyterian-St. Luke's Hospital (tumor, blood coagulation, cardiovascular surgery, and tissue transplantation); (2) specialty clerkships (tumor clinic, urology, emergency service, anesthesia, recovery room). Total enrollment limited to twenty-six students with no more than two students in any one area of research or specialty program. Su. F. W. and Sp.

Elective Courses - Not for Credit

- 361. Surgical and Clinical Anatomy. A review of gross anatomy, except for central neuroanatomy. Emphasis is based on clinical application and correlations with embryology, physiology, pathology, and clinical surgery and medicine. A one hour lecture-discussion is followed by three hours of laboratory-dissection. Limited to 24 students each quarter. Monday afternoons, F, W, Sp.
- 491. Surgical Seminar. The content of the course may vary from quarter to quarter depending upon availability of speakers and their research accomplishments. Slightly more than one-half of the time is devoted to presentations by scientists outside of the department. The rest of the time is

devoted to discussion of our own surgical projects, criticizing methods and other features of the protocol. Most, but not all, of the outside presentations are of the research type. Two hours each week; F, W, Sp, and Su.

Required Courses — Other Colleges and Schools

Occupational Therapy 324. Surgical Conditions. School of Associated Medical Sciences.

UROLOGY

- Professors: J. H. Kiefer (Acting Head of Division), L. R. King, J. H. McDonald.
- Associate Professors: G. O. Baumrucker, M. J. Flanagan, E. C. Graf, C. F. McKiel, Jr., J. W. Merricks, Jr., F. W. Schacht (Emeritus), C. C. Wiggishoff.
- Assistant Professors: C. D. Berry, Jr., D. H. Callahans, S. S. Clark, T. L. C. Cottrell, R. Cruz, R. E. Dahms, E. Deniz, A. Diaz, J. S. Drabanski, R. R. Haeger, J. A. Kozak, W. C. Meyer, F. B. Papierniak, C. O. Ritch (Emeritus), K. H. Simpson, J. C. Valenta.
- Instructors: N. Ardali, J. A. Calamus, R. A. Flinn, J. G. Morgan, Jr., R. F. Prudencio.

Assistant: R. MISUREG.

Required Clinical Courses

353. Clerkship. Given as an elective in conjunction with Surgery 353. Students are assigned patients and are responsible for the history, physical examination, and initial laboratory work. They also attend ward rounds. University of Illinois Hospital, Presbyterian-St. Luke's Hospital, Cook County Hospital, and West Side Veterans Administration Hospital. The more important urologic conditions are presented in detail by discussion and demonstration of patients, in a weekly urologic seminar. Su, F. W, and Sp.

ANESTHESIOLOGY

- Professors: M. S. Sadove (Head of Division), R. C. Balagot, E. T. Morch, P. W. Searles.
- Associate Professors: M. J. Levin, M. M. Lyons (Emerita), R. Rosenberg, J. L. Schmidt, A. T. Shima.
- Assistant Professors: M. Baldoza, V. R. Bandelin, L. M. Cadkin, W. S. Druz, S. Freifeld, G. Gleave, N. B. Goldberg, E. Heckel, F. N. Heller, D. Katz, Y. R. Lee, R. Machado, H. E. Natof, R. F. Rose, E. A. Sabin, L. Schwartz, M. Shulman, E. T. Toyooka, V. Traina, V. E. Wallace, B. Zahed.

- Instructors: H. H. Berlin, C. Hodges, C. V. Sanchez, J. Solway, R. D. Thomason, D. A. Valenti, G. Y-S Kang.
- Assistants: P. Arastounejad, E. G. Callegari, Y. S. Choi, S. S. Lee, O. P. Mayos, D. Villacarlas, H. Y. Yoo.
- 378. Principles of Anesthesia. Clinical Lecture Program: Principles of anesthesia are presented in a series of lectures as part of the clinical lecture program during the first three quarters of the clinical years.

TEACHING HOSPITALS

Research and Educational Hospitals

The University of Illinois owns and operates the University of Illinois Hospital in order to have a solid core of facilities for support of the various educational programs which are based on "patient centered" activity. The Hospital contains 605 beds and 50 bassinets, and the outpatient clinics, embracing all of the recognized specialties and many of the subspecialties, provide a setting for 200,000 patient visits per year. Four distinct buildings connected by a tunnel system form this hospital complex. The first two units (the General Hospital and the Illinois Surgical Institute for Children) were constructed in the mid and late 1920's, the Neuropsychiatric Institute was completed in 1941, and the main, fourteen-story structure was occupied in 1953. The latter building houses the administrative offices, an Emergency Service, several of the outpatient clinics, the Dietary Department, Radiology Department, operating and recovery rooms, and the patient care facilities of the Departments of Surgery, Medicine, and Pediatrics. The staff offices and research facilities for these three clinical departments are also located in this building.

The major portion of the outpatient clinics are located on the first floor of the General Hospital. The Departments of Dermatology, Obstetrics and Gynecology, Ophthalmology, and Otolaryngology with their patient care facilities are housed in this building together with the Hospital Laboratories, the Tumor Clinic, and Therapeutic Radiology and Isotope Laboratory. The offices and classrooms of the occupational therapy curriculum also occupy space here. The Section of Anethesiology and the operating and recovery rooms are on the fourth floor.

The clinical facilities and staff offices for the Department of Orthopaedic Surgery and the Department of Physical Medicine and Rehabilitation are included in the building formerly referred to as the Illinois Surgical Institute for Children. The Neuropsychiatric Institute houses all the facilities (patient care, teaching, and research) for the Department of Neurology and Neurological Surgery in its north wing, and the south wing serves the same broad functions for the Department of Psychiatry.

The Emergency Service represents an integral part of the broad patient services offered and is equipped to care for virtually any emergency. It includes four examining rooms, two minor operating rooms, a complete laboratory, a radiographic-fluoroscopic installation, and two two-bed overnight observation units. Approximately 36,000 patient visits per year represent the current level of service.

The Illinois Eye and Ear Infirmary occupied its new facility in 1967 and is connected to the University of Illinois Hospital by tunnel. This structure, embodying the newest concepts of patient care, is owned and operated by the Illinois Department of Children and Family Services. All professional coverage is provided by the University and includes attending physician-faculty members, residents, nursing personnel, laboratory, x-ray, and pathology services. The Hospital Pharmacy is supervised by the College of Pharmacy. These facilities provide for the principal inpatient and outpatient activities of the Departments of Ophthalmology and Otolaryngology.

The attending staff structure of College of Medicine faculty is built around the concept of full-time department heads with varying numbers of full-time staff members. All departments are substantially strengthened by attending physicians whose times vary from 90 per cent to those who are volunteers and receive no compensation. This balance in interest and skills is deemed important in providing the broadest possible intellectual stimulus to the house staff and the clinical clerks, for both the inpatient services and the outpatient clinics are used extensively in the medical student clerkship programs.

Outpatient Admitting Desk.



Patient admissions are limited to residents of the state of Illinois and payment for hospital services is based upon the patient's ability to pay. Selection for admission is dependent upon the patient's need for the high quality medical service which the University's Hospitals are prepared to render and the relationship of the medical care problem to the teaching and research needs of the College of Medicine and the Hospitals. The facilities available cover virtually every facet of medical science. Special studies and research projects frequently attract patients with unusual or refractory medical conditions; however, the spectrum of patients selected achieves a balance between the more commonplace conditions and the rare and exotic type.

Education for the medical student in the clinical years is predicated on the actual care of patients. This principle has been found to provide not only the most highly motivating method of learning but has served to sharpen the student's capacity for independent thinking and self-education. The student becomes an accepted (though junior) member of the medical care team during his clinical clerkship which represents the actual transition from classroom and laboratory centered academic experience to the role of the physician caring for his patient.

Presbyterian-St. Luke's Hospital

This hospital is a non-profit, voluntary, general hospital of 836 beds and 77 bassinets. It is located two blocks north of the College of Medicine. The hospital was formed in 1959 by the physical merger of St. Luke's Hospital, founded in 1864, and Presbyterian Hospital, founded in 1883.

Through an agreement between the hospital trustees and the Board of Trustees of the University of Illinois, Presbyterian-St. Luke's Hospital is formally affiliated with the University and the College of Medicine. Each member of the hospital's attending staff holds a faculty appointment at the College of Medicine. Each year approximately 35 per cent of the students of the College of Medicine receive training in both inpatient and outpatient care.

Approximately 30,000 patients spend 280,000 patient days each year under treatment and study by an attending staff of over 400 and a house staff of 200. There are approximately 150 salaried staff members including heads of most major divisions, departments, and sections. The outpatient facilities of the Presbyterian-St. Luke's Hospital Health Center handle more than 99,000 patient visits yearly. Research areas buttressing the clinical activities include major clinical and basic science investigation. Students may also attend regularly scheduled lectures and grand rounds in

biochemistry, medicine, microbiology, neurology, obstetrics and gynecology, pathology, pediatrics, and surgery.

Patients entering the hospital represent all classes of society and suffer from conditions representative of the entire spectrum of diseases. In addition, patient care cost is reimbursed from all conventional sources including restricted and unrestricted hospital funds. Of particular interest is the patient population in the Mile Square Neighborhood Health Center which has approximately 50,000 patient visits per year.

Since all patients are available for the teaching program, there is ample opportunity to learn to appreciate the sociological factors in disease and acceptance of care. The student has an opportunity to achieve a comprehensive view of contemporary medicine and its problems.

Illinois Eye and Ear Infirmary

The Infirmary is operated jointly by the Illinois Department of Children and Family Services and the University. The departments of Otolaryngology and Ophthalmology of the College of Medicine and University of Illinois Hospital are for the most part located in this specialized hospital which is situated across Taylor Street from University of Illinois Hospital and is connected to it by a tunnel system. Medical student, intern, resident, and continuing education programs are conducted in this excellent facility.

Cook County Hospital

Cook County Hospital operated by the Cook County Board of Supervisors contains approximately 3,400 beds. It is located directly across Polk Street from the College of Medicine. The facility is used extensively for clerkship training by many departments but particularly by the Departments of Medicine, Pediatrics, and Surgery.

West Side Veterans Administration Hospital

The Veterans Administration Hospital is located two blocks west of the College of Medicine. Its training program is under the supervision of a Dean's Committee. Each member of the professional staff of the hospital holds an appointment in the medical school and participates in the instructional program of medical students and residents.

Hines Veterans Administration Hospital

The hospital is located twelve miles west of the Medical Center. Its training program is under the supervision of a Dean's Committee consist-

ing of the deans of the University of Illinois College of Medicine, the Stritch School of Medicine of Loyola University, the Chicago Medical School, and Northwestern University Medical School. The hospital facilities are used extensively for certain instructional programs, particularly alternative quarter programs.

Chicago-State Tuberculosis Sanitarium

This hospital for treatment of patients with tuberculosis is located in close geographic proximity to the College of Medicine. Through members of its staff who are members of the faculty of the College of Medicine the facility is available for alternative quarter programs.

Illinois State Psychiatric Institute

The Illinois State Psychiatric Institute, operated by the Illinois Department of Mental Health, is available to medical schools located in Chicago for medical student teaching, postgraduate instruction, and research.

OTHER RESOURCES FOR LEARNING

Library

The Library of Medical Sciences serves the faculty, students, and staff of the Colleges of Dentistry, Medicine, Nursing, and Pharmacy, the School of Associated Medical Sciences, the Graduate College, the University of Illinois Hospital, and affiliated institutions in the vicinity. Its collection is a comprehensive one of materials in all of the subject fields of interest in the teaching, research, and clinical programs of the units which it serves. Some 2,300 current periodicals are received, and nearly 185,000 books and bound periodical volumes are available. Its facilities may be used for reference purposes, and most materials may be withdrawn for use outside the reading rooms.

Museums

Pathology Museum. The Department of Pathology maintains a museum which is designed to be a self-contained visual teaching aid. It is located immediately adjacent to the pathology laboratories and occupies a floor space of 1,232 square feet. Seventy forty by thirty inch display boards accommodate a series of temporary exhibits. These exhibits correlate with the material currently covered in the laboratories and lectures. The exhibits include gross pathology, microscopic pathology, and clinical

data. A wide variety of techniques are used in the preparation and presentation of the pathologic material. These techniques include color photographs, preserved wet tissues mounted in plastic containers, plastic embedded specimens, plastic casts of actual gross lesions, corrosion specimens, x-rays, and cinematography. Pathology is presented not only from the standpoint of the individual lesion, but also from the standpoint of disease concepts including etiology and pathogenesis. In addition to routine duties, the museum staff conducts research in museum methodology.

Anatomy Museum. The Department of Anatomy maintains a collection of anatomical dissections, models, and other visual aids to assist students in understanding the development and the relationships of the structure of the human body.

Research Resources Laboratory

The Research Resources Laboratory is a centralized research and education facility divided into four sections. These include the Environmental Stress Facility which consists of rooms and altitude chambers with a wide variety of temperature, humidity, and pressure control; the Bioinstrumentation Facility which provides instrument design, construction, and service in addition to maintenance and repair activities; the Electron Microscope Facility which contains five electron microscopes and necessary technical equipment for preparation of materials; and the Digital Computer Facility which in addition to a data processing machine contains magnetic tape and disc storage units, an on-line printer, and X-Y plotter. Off-line equipment is available. The facilities are provided to personnel who uniquely require the use of such facilities or services in the conduct of their research and educational programs.

Medical Research Laboratory

The Medical Research Laboratory is one of the most significant additions to the University of Illinois Medical Center Campus. The \$2,250,000 one-story brick and concrete building houses over 12,000 animals used in research and teaching in some 23 departments of medicine, dentistry, and pharmacy. Some 130 scientific research projects are carried on in this building at any given time, with the aid of an excellent permanent staff of 33, including four veterinarians, a nurse, technicians, laboratory assistants, and animal caretakers.

A \$3,000,000 addition to the facility now under construction will more than double the facilities of the present laboratory. The new addition will

be used to house the large numbers of non-human primates and farm animals used in biomedical research activities.

Division of Services for Crippled Children

An administrative unit of the University of Illinois at the Medical Center, the Division operates a statewide program of medical, surgical, and other habilitative services for children who are afflicted with a wide variety of handicapping conditions. It is Illinois' official crippled children's medical care agency. Facilities for diagnosis, hospitalization, and follow-up care are provided, utilizing various resources throughout the state, including the University of Illinois Hospital. The Division conducts 260 general and special clinics in 40 communities staffed by pediatric, orthopaedic, speech and hearing, social service, and public health nursing consultants. Teaching and research relationships within the Medical Center are maintained through the Hospital's Center for Handicapped Children, the Center for Craniofacial Anomalies, and related other programs. Liaison is maintained with the Children's Bureau of the Department of Health, Education, and Welfare as well as with the state of Illinois official public agencies related to health, welfare, instruction, and vocational rehabilitation.

LECTURESHIPS

Bacon Lectureship. In 1927, when Doctor Charles S. Bacon, on reaching the retiring age, was made Professor of Obstetrics, Emeritus, members of the faculty and friends of Doctor Bacon contributed the sum of \$5,000 to found the Charles S. Bacon Lectureship in Obstetrics. The income from this fund is used to defray expenses of lectures given each year at the College of Medicine.

Davis Lectureship. The inauguration of the D. J. Davis Lectureship on Medical History was held on October 15, 1943. These lectures are maintained by interest on the funds subscribed by friends and associates of Doctor Davis who served the University for thirty years as Professor of Pathology and Dean of the College of Medicine.

Gehrmann Lectureship. In 1924, in accordance with the will of Mrs. Albertina Gehrmann, widow of Doctor Adolph Gehrmann, for many years Professor of Bacteriology and Hygiene in the College of Medicine, the sum of \$10,000 was given for the support of an annual lectureship in memory of Doctor Gehrmann.

CHICAGO ILLINI UNION

The Chicago Illini Union is a center for the out-of-classroom life of students, staff, faculty, alumni, and guests of the University. Located in an outstanding structure adjacent to the Student Residence Hall, the Union contains: lounges, including a Music Lounge and Art Lounge; food service facilities, including a Cafeteria, Snack Bar, and the Centennial Room (a buffet dining room); conference rooms; the Chicago Room (a large multipurpose room); student activity offices; the University bookstore; a television room; and recreation facilities including a Billiard Room, Game Room, and bowling lanes.

A variety of recreational and cultural programs and social events are sponsored by the student officers and committee chairmen who form the Union Directorate with counsel from a student-faculty Union Board. Through its facilities, services, and programs the Chicago Illini Union encourages interdisciplinary understanding and provides a stimulus for student participation in the creative process which is so essential to the training of those who practice in the health sciences.

Chicago Illini Union Building.



HOUSING

The University offers comfortable and convenient living quarters on the campus at reasonable rates in its Student Residence Hall, Women's Residence Hall, and Staff Apartment Building. Faculty, nonacademic staff, residents, and interns who are employed by the University at least on a half-time basis are given priority in the assignment of apartments, but married students, graduate students, and others are also eligible on a spaceavailable basis. If a married student's wife or husband is employed by the University at least on a half-time basis the couple is eligible for employee priority on the waiting list. Assignments to the residence halls are based upon the date of application and policies established by the University Committee on Housing. Single, undergraduate women under twenty-one years of age as of September 1 of the current academic year who do not live with parents, relatives, or guardians must live in University-approved housing unless special permission to live elsewhere has been granted in writing by the Dean of Women. Other students are not required to live in University-owned units.

The Student Residence Hall accommodates 412 persons in 196 double, thirteen single, and seven rooms for resident advisers. Facilities include a central shower and washroom on each floor, laundry and pressing rooms, recreation room, a lounge-television room, baggage storage area, and automatic elevators.

The Women's Residence Hall is an air-conditioned building housing 177 persons. It contains eighty-seven double rooms and three resident adviser rooms. A number of the facilities are similar to those of the Student Residence Hall, including a central shower and washroom on each floor, laundry and pressing rooms, baggage storage, and an automatic elevator. In addition, the Women's Residence Hall features a study lounge on each floor, provisions for students to obtain private telephone service on an optional basis, contemporary furnishings, and a landscaped courtyard.

Meals are served three times per day in the air-conditioned Student Residence Hall Dining Room to residents of both the Women's Residence Hall and Student Residence Hall. Both residence halls are interconnected with the new Chicago Illini Union, thereby giving residents ready access to the many lounges, meeting rooms, programs, recreational facilities, and other services provided by the Union.

A staff of resident advisers is available to assist residents with personal problems and to see that a proper environment is maintained for study and living conditions. A student government organization promotes and

maintains an effective program of self-government and social-recreational activities.

Contracts for accommodations in the residence halls are issued for the entire academic year. Payments may be made in full at the beginning of the academic year, quarterly, or by monthly installments in advance. The contract is for room and board and includes twenty meals per week. Application forms and additional information on housing may be obtained from the Housing Office, University of Illinois at the Medical Center, 818 South Wolcott Avenue, Chicago (mailing address: P.O. Box 6998, Chicago, Illinois 60680).

RECREATIONAL FACILITIES

An intramural sports program is conducted under a trained director. Gymnasium facilities are available on the campus at 715 South Wood Street for indoor sports. Tennis courts are located nearby. Through special arrangements, the swimming pool and handball courts of the Duncan Y.M.C.A. are available to male students.

ORGANIZATIONS

Student Organizations

An organization, to obtain University recognition, must comply with certain established rules and regulations. Descriptive material concerning the various student organizations may be found in the *Student Handbook*.

All recognized student organizations are under the supervision of the Office of Student Affairs. Each organization must have a faculty advisor. Detailed information may be obtained at the Office of Student Affairs.

The following are recognized student organizations:

Executive Student Council
Medical Student Council
Americal Medical Women's Association
Christian Medical Society
Newman Club
Student American Medical Association
Student Health Organization

Alpha Kappa Kappa Alpha Omega Alpha Nu Sigma Nu Phi Delta Epsilon

Scholastic Honorary Society

ALPHA OMEGA ALPHA

This international honorary medical society was founded at the University of Illinois College of Medicine in 1902. Members are elected during the clinical years on the basis of scholarship, personal honesty, and potential leadership.

Alumni Organization

The Alumni Association of the College of Medicine, while an integral part of the Alumni Associations of the University of Illinois, has its own elected council and officers. Council meetings are held at regular intervals and a one-day scientific meeting including a banquet is sponsored each May. An activity of the Alumni Association for which the College is particularly grateful is its sponsorship annually of a luncheon for incoming freshmen during orientation week.

The Association is aided in its work by the services of Executive Director, Mr. Alan M. Scarnavack, whom the Medical Alumni share with Alumni Associations of the other colleges at the Medical Center.

Officers of the Association are:

President: Dr. Philip G. Thomsen '34, 1229 East 158th Street, South Holland, Illinois 60473.

President-Elect: Dr. Armand Littman '43, Veterans Administration Hospital, Hines, Illinois 60141.

First Vice-President: Dr. Theodore Z. Polley, 1006 Buell Avenue, Joliet, Illinois 60431.

Second Vice-President: Dr. Jack L. Gibbs '53, R. R. 2, Canton, Illinois 61520.

Secretary-Treasurer: Dr. Louis R. Limarzi '30, 910 North East, Oak Park, Illinois 60302

Other Council Members are:

1967-70

Dr. William R. Best '47, 367 Blythe Road, Riverside, Illinois 60546.

1968-71

Dr. William C. Brennan '53, 1930 Fisher Street, Munster, Indiana 46321.

Dr. Truman O. Anderson, '60, 521 Fair Oaks Avenue, Oak Park, Illinois 60302.

Dr. William J. Grove '43, 664 Fifty-eighth Street, Hinsdale, Illinois 60521.

- Dr. W. Francis Jacobs '33, 4051 West North Avenue, Chicago, Illinois 60639.
- Dr. Robert C. Muehrcke '52, 1006 North Belleforte, Oak Park, Illinois 60302.

1969-72

- Dr. Carl Hedberg '26, 2051 Sedgwick, Chicago, Illinois.
- Dr. Ross N. Hutchinson '52, 126 East Ninth Street, Gibson City, Illinois 60936.
- Dr. William H. Marshall '53, Glendale Plaza Medical Building, 414 St. Mark Court, Peoria, Illinois 61603.
- Dr. Max Montgomery '29, 2052 Lincoln Park West, Chicago, Illinois 60614.
- Representative to the General Alumni Council: (term ends May, 1970)
- Dr. Gilbert H. White, Jr. '51, 1755 Ridge Road, Munster, Indiana 64321. Immediate past president:
- Dr. Earl C. Bucher '34, 1106 North Church Street, Gibson City, Illinois 60936.

Sigma Xi

In 1928 the Society of Sigma Xi granted a charter for the organization of a chapter of this society at the College of Medicine. Its object is the promotion of research.

FINANCIAL AIDS

A number of scholarships, prizes, and loan funds are available to medical students who qualify under the regulations governing the administration of the various aid programs.

Unless specifically stated otherwise, information and applications for all financial aid are available at the Office of Student Affairs.

A brief description of each of the scholarships, prizes, and loan funds follows.

Scholarships

Mary Amanda Anderson Scholarship. Mary Amanda Anderson, an alumna of the University of Illinois, established the scholarship "to assist young women to obtain the advantages of an education." Awards are

made in accordance with established procedures of the College of Medicine.

Ione Fisher Beem Scholarship. Doctor Ione Fisher Beem, who graduated from the College of Medicine in 1913, bequeathed to the University \$10,000 to establish a scholarship fund, the income from which provides a scholarship for a woman medical student.

Berkelhamer Scholarship. A scholarship has been established by the family of Doctor Ralph C. Berkelhamer, a graduate of the University of Illinois College of Medicine, who died as a prisoner of war in October, 1944. It is awarded annually to a deserving and needy student.

Class of 1938 Scholarship. The Class of 1938, at the time of its twenty-fifth reunion, set up a fund to provide an annual scholarship for a medical student, to be awarded in accordance with the College of Medicine regulations.

Warren H. Cole Scholarship. The Warren H. Cole Society annually gives a sum of money to the University to be awarded to a freshman student who has performed in an outstanding manner during the first quarter of the freshman year.

Herman J. Jaffe Memorial Foundation Scholarship. Friends of the late Mr. Jaffe established the scholarship in his memory. The income from the endowment provides an annual scholarship for a worthy student.

Moldavsky Scholarship. The scholarship is available to a regularly enrolled student in the College of Medicine who is in need of financial assistance and who has demonstrated outstanding qualities in course work in physiology.

David Mortimer Olkon Scholarship. The scholarship is awarded annually to two outstanding senior medical students in the Department of Neurology and Neurological Surgery and Department of Psychiatry selected on the basis of excellence and scholastic standing by the Dean of the College of Medicine and heads of each of said departments.

Pfizer Laboratories Scholarship Program. Pfizer Laboratories annually provides funds that are awarded to a medical student who has demonstrated outstanding scholarship.

Phi Delta Epsilon Fraternity Foundation Scholarship. This Foundation has established a scholarship to be awarded annually to an undergraduate member of the Phi Delta Epsilon Fraternity who has shown evidence of scholarship, leadership, and service. The award is made in accordance with established procedures of the College of Medicine.

Rea Scholarship. The annual income from a fund established in 1899 by the will of Doctor Robert Laughlin Rea is used for scholarships, awarded by a committee of the faculty, to help pay the tuition fees of needy students in the College of Medicine. First-year students are not eligible.

Otto Saphir Memorial Scholarship. The scholarship was established in 1963 as a memorial to Doctor Otto Saphir, Clinical Professor of Pathology from 1930 to 1963. It is awarded annually to a medical student who has demonstrated outstanding competence and interest in pathology.

Seitzinger Scholarship. The scholarship, established by an alumnus, is available every fifth year to a freshman medical student.

Doctor Jerome D. Solomon Scholarship. The scholarship, to be awarded to a deserving and needy medical student, was established by a gift from the Doctor Jerome D. Solomon Foundation. Doctor Solomon, who graduated from the University of Illinois College of Medicine in 1941, died in New Guinea during World War II and was posthumously awarded the Legion of Merit.

Streicher Memorial Scholarship. An endowment fund has been established by colleagues and friends of the late Doctor Michael Henry Streicher, who was a member of the Department of Medicine for many years. The income from this fund is used as a scholarship for a capable and needy student enrolled in the College of Medicine. Other things being equal, preference is given to sons or daughters of graduates of the University of Illinois College of Medicine. After the award is made, if circumstances warrant, the award is reassigned annually as long as the student is enrolled as an undergraduate in the College of Medicine.

Williamson Memorial Scholarship. Members of the faculty and friends of the late Professor Charles Spencer Williamson, for many years Head of the Department of Medicine, have established an endowment fund, the income from which is used as a scholarship for a capable and needy student, either graduate or undergraduate. The award is made by the Dean of the College of Medicine and the Head of the Department of Medicine.

Woman's Auxiliary Scholarship. The Woman's Auxiliary of the University of Illinois at the Medical Center at the present time offers a scholarship annually to a student in the College of Medicine. The recipient is selected on the basis of scholarship, need, and adaptability.

Yarros Scholarship. The fund was established by Victor S. Yarros to continue the scholarship program begun in 1948 in memory of his wife,

Doctor Rachelle S. Yarros, formerly Professor of Social Hygiene at the University of Illinois College of Medicine. Scholarship awards in varying amounts are available to deserving and needy students enrolled in the College of Medicine.

Other Scholarships. In addition to the scholarships listed above, funds are received annually from a variety of sources to provide financial assistance to medical students.

Governmental Scholarships

Federal Scholarships. The Department of Health, Education, and Welfare of the federal government has established a sizable scholarship fund for medical students who entered the College of Medicine after September, 1966. To qualify for a scholarship of this type, a student must be needy and from a low-income family. The amount of the scholarship may range from \$100 to \$2500 depending, again, on the degree of need.

General Assembly Scholarships. Each member of the General Assembly may nominate, annually, one student from his district for a scholarship to the University. Provision is made for substitute appointments in case the original nominee fails to qualify or discontinues his course. This scholarship exempts the holder from the payment of the tuition fees only in any course in the University for a period of four years. Application should be made to your State Representative or Senator.

Military Scholarships. Any person who served in the Army, Navy, Air Force, or Marine Corps of the United States during World War I, or at any time after September 16, 1940, and who has been honorably discharged, is entitled to a scholarship to the University of Illinois if he possesses the necessary entrance requirements and if he was a resident of the state of Illinois or a student in the University of Illinois at the time of his enlistment. This scholarship exempts the holder from the tuition fees in any course in the University for four years. Applications for these scholarships may be procured from the Office of Student Affairs.

Prizes

Beaumont Memorial Prize. The late Doctor Frank Smithies of Chicago endowed an annual prize in memory of William Beaumont, the famous surgeon of the nineteenth century. The prize is awarded by a committee to the student or faculty member of the College of Medicine who submits the best original work on diseases of the alimentary tract.

Borden Undergraduate Research Award. The Borden Company

Foundation, Inc., has established a \$500 yearly prize for the student in the graduating class who during any year while enrolled in the College of Medicine as a candidate for the Doctor of Medicine degree is judged to have performed the most meritorious piece of research. Originality and thoroughness of the research are of primary consideration.

Sigma Xi Prize. The Society of Sigma Xi annually awards two prizes for excellence in graduate research. These prizes are available to any students in the Colleges of Medicine or Dentistry who are also registered in the Graduate College. On the basis of the research and its presentation, awards of \$300 and \$200 are made from funds provided by Mr. and Mrs. Charles E. Fawkes.

Other Prizes. Special prizes and awards are available annually from gifts and grants-in-aid. Such awards are publicized and administered by the faculty committees.

Loan Funds

A number of loan funds have been established in the College of Medicine to assist needy students. In general, all loan funds regardless of their source may be classified as long- or short-term.

Long-term loans usually bear no interest while the student is in school, and following graduation interest and principal are repaid over varying periods ranging from one year to ten years. The interest rate for most long term loans is low, ranging from 3 per cent to 5 per cent. Applications and detailed information may be obtained in the Office of Student Affairs.

Short-term or emergency loans are available to all students and range from \$25.00 to \$200. The term of the loan is usually not more than 60 days. There is no interest charge on emergency or short-term loans, and no cosigners are required.

Loan funds currently available are as follows:

American Medical Association Education and Research Foundation Loan Fund. The American Medical Association, in cooperation with the Continental Illinois National Bank and Trust Company of Chicago, has established a sizable loan fund from which medical students, interns, and residents may borrow from \$400 to \$750 annually. Repayment may be scheduled over a ten-year period after all training is completed. Interest varies slightly from time to time, but generally averages about 6 per cent from the date the loan is made.

Chicago Memorial Hospital Women's Auxiliary Loan Fund. The fund, established in 1955 by a gift from the Women's Auxiliary of the

Chicago Memorial Hospital, is for loans to needy and qualified students in the College of Medicine.

Emergency Aid. Emergency loans are made to students in the College of Medicine from a fund established by students and from general University money.

Doctor Benjamin Goldberg Fund for Needy Students. Doctor Benjamin Goldberg, an alumnus of the University of Illinois College of Medicine, established a fund for needy students. The fund is administered by the Dean of Student Affairs, and the aid is in the form of a gift to the needy student.

Frank Goodman Loan Fund. A limited number of loans are made from a sum of money given to the University in honor of Doctor Frank Goodman, an alumnus of the University of Illinois College of Medicine. Loans from this fund are administered under the same rules and regulations applied to general University loan funds.

Health Professions Student Loan Program. The special federal loan program is available to medical students. The primary qualification for a loan is need, and parents are required to submit a financial statement.

Terms are very attractive. Qualified students may borrow a maximum of \$2,500 per year.

Illinois Agricultural Association and State Medical Society Loan Fund. The Illinois State Medical Society, through its committee on rural medical service, has a loan fund available for medical students who meet certain requirements.

Poncher Foundation Fund. A revolving loan fund created by friends of Doctor Henry George Poncher, former Professor and Head of the Department of Pediatrics at the University of Illinois College of Medicine, provides loans up to \$1,000 with liberal repayment privileges after the period of medical training is completed. Loans are limited to qualified junior or senior premedical students and medical students.

Margaret Ann Schultz Loan Fund. A sum of money given to the University from the estate of Margaret Ann Schultz is set aside specifically for loans to medical students. Loans from this fund are administered under the same rules and regulations applied to general University Loan Funds.

University Long-Term Loan Fund. Long-term loans are limited to \$1,000 for any one year and a maximum of \$2,500 while a student is attending the University of Illinois College of Medicine. Long-term loans bear interest at the rate of 3 per cent starting four months after the date of graduation or withdrawal from the University.



OFFICE OF RESEARCH IN MEDICAL EDUCATION

Director: G. E. Miller.

Assistant Director: C. McGuire Masserman.

Senior Associate: L. A. Fisher; Associate: S. Perlmutter; Assistant Profes-

sor of Education: A. J. Diekema.

Evaluation Study Section: A. G. Rezler, Senior Associate; Associates: J. L. Coole, W. R. Crawford, B. H. Huncke, J. A. Kopta, H. S. LaRocca, C. J. Olson, M. Omori, T. S. Royce.

Instructional Systems Section: W. G. Harless, Chief; Associates: R. M. Davis, G. C. Drennon, J. B. Williams.

Training Section: Associates: K. J. Connell, B. L. Hulbert, D. F. Pochyly. The College of Medicine, in 1959, organized an Office of Research in Medical Education to lend direction to a carefully designed and allinclusive study of its educational program. This intramural study activity was expanded in 1964 to include a Center for the Study of Medical Education in which educational research and development programs that go beyond this College of Medicine can be mounted. Particular attention is given to the study of curricular organization, design and study of instructional systems, creation or refinement of methods for evaluating student achievement and program effectiveness. The initial focus of study was the medical school course of instruction, but research and development programs have now expanded to include the internship and residency as well as continuing education for health practitioners. Training opportunities are also provided. Those seeking special preparation for a career in medical education may select either a research fellowship or a graduate program, offered jointly with the College of Education, leading to a Master of Education (in medicine), Ph.D., or Ed.D. degree. Medical faculty members who wish a more abbreviated introduction to the field may enroll in intensive courses which are offered periodically. Elective and alternate

program opportunities for medical students can be arranged.

SCHOOL OF ASSOCIATED MEDICAL SCIENCES

The School of Associated Medical Sciences established in the College of Medicine offers course work leading to a baccalaureate in each of five curricula — Medical Art, Medical Dietetics, Medical Record Administration, Medical Technology, and Occupational Therapy. The first three years of the curricula are offered at the University's undergraduate Urbana and Chicago campuses in the College of Liberal Arts and Sciences. Transfers from other colleges and universities are accepted if they meet the entrance requirements. The professional courses are given in one full year (Curriculum in Occupational Therapy, sixteen months) at the University of Illinois at the Medical Center in Chicago after satisfactory completion of the first three years.

Further information regarding these curricula may be obtained from the Director of the School of Associated Medical Sciences, 901 South Wolcott Avenue, Chicago (mailing address: P.O. Box 6998, Chicago, Illinois 60680).

POSTGRADUATE PROGRAMS

Postgraduate programs are under the coordination of the Office of the Dean of the College of Medicine. The faculty consists of the faculty of the College and invited guest faculty. The purpose of these programs is to supplement the continuing education of physicians by making available information that will result in better patient care. The policy is to offer courses that will add depth to the practitioners' knowledge and skill in selected content areas that are germane to the present and future practice of medicine. Unless otherwise stipulated, courses are open only to licensed physicians. Enrollments are by advance registration and are limited to a number consistent with sound teaching. Registration fees are charged in order to defray expenses. These fees may be waived for those in a trainee status at the discretion of the responsible Associate Dean. Course announcements are provided in medical journals and by mail to members of the profession. Intensive one-day seminars on topics of general interest are planned at approximately monthly intervals during the academic year. Through its Center for the Study of Medical Education, the College also offers specialized instruction in educational principles and practices for those who have assumed responsibility for developing postgraduate programs.

For further information write to: Nat E. Smith, Associate Dean University of Illinois College of Medicine P.O. Box 6998 Chicago, Illinois 60680

Otolaryngology

The Department of Otolaryngology offers the following courses annually upon advance registration with that department.

The following courses may be registered for individually or in groups, the time being arranged with the instructor. Additional hours may be scheduled with consent of the head of the department. Applicants must be graduates of a Class A medical school and present acceptable credentials.

- 340. Postgraduate Basic Curriculum. Provides a full-time basic curriculum of instruction for those intending to prepare for special practice. Nine months of the academic year with an addition of a three-month period of clinical work. 9:00 a.m. to 5:00 p.m. Fee: \$150.00 tuition and \$100.00 laboratory each quarter.
- 341. Principles of Otolaryngology. Lectures, demonstrations, cadaver dissection, surgical anatomy, animal and cadaver surgery, physiology, laboratory and

- photographic technic, histology and pathology, and seminar. Duration: Three months. Fee: \$150.00.
- 342. Bronchoesophagology. Consists of lectures, animal and cadaver work, and actual observation in the bronchoscopic operating room and outpatient clinics. Includes indirect and direct laryngoscopy, bronchoscopy, and esophagoscopy. May also be scheduled separately by accredited specialists. Didactic and laboratory. Duration: Two weeks. Fee: \$300.00.
- 344. Refresher Courses. Brief review courses of one or two weeks in length covering the more important subjects of the specialty. Largely didactic, they bring to specialists current advances in management, therapy, and philosophies. Held several times during the academic year as determined by need. Fee: \$200.00 per week.



CHIANG MAI PROJECT

Since August, 1962, the University of Illinois College of Medicine has assisted in the development of the Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand. The program is conducted under terms of a contract between the University of Illinois, the government of Thailand, and the Agency for International Development of the State Department of the United States of America.

Chiang Mai, the second largest city in Thailand, is located some 500 miles north of the capital city of Bangkok, and the Faculty of Medicine, Chiang Mai Hospital, was the first medical school to be developed in a provincial area. In 1965, the Chiang Mai Faculty of Medicine joined the University of Chiang Mai and became the first medical faculty in Thailand to become part of a university.

Faculty members of the University of Illinois College of Medicine serve as consultants and advisers to the Thai faculty and administration in the development of the educational, research, and service programs of the Chiang Mai Medical School and Hospital. Financial assistance is offered for the purchase of necessary educational and research equipment.

In association with the program, selected members of the Chiang Mai faculty spend one or more years of advanced training in the University of Illinois Hospital or in the basic science departments of the University of Illinois College of Medicine.

The present contract terminates in 1970, and it is expected that some appropriate relationship between the two faculties will continue beyond that date.

SMITH, KLINE AND FRENCH FOREIGN FELLOWSHIPS FOR MEDICAL STUDENTS

The Foreign Fellowships Program offers junior and senior students enrolled in United States medical schools an opportunity to work and study in medically underdeveloped areas of foreign countries.

The purpose of the program is to provide selected medical students special opportunities to benefit from unusual clinical experience in foreign countries; to study and practice preventive medicine in societies and cultures different from their own; to observe diseases not common in the United States; and to familiarize themselves with exotic medical, cultural, and social problems that are characteristic of a large segment of the world's peoples.

Eligible medical students who wish to apply may obtain additional information and application blanks from the Office of the Dean. Each medical school selects two applications for submission to the national selection committee. No more than one application is approved by that committee for each school.

The program is made possible through a grant from Smith, Kline and French Laboratories of Philadelphia and is administered by the Association of American Medical Colleges.

The Association of American Medical Colleges sponsors other foreign fellowship programs for which medical students may apply. The nature of these programs varies from time to time, and details are obtainable from the Office of the Dean.

OTHER OPPORTUNITIES

Medical students who gain approval of a department may spend an alternate quarter in an educational program outside of the United States. Students have had hospital clerkship experiences and research experiences in many parts of Europe and the Near East.

A limited amount of financial support is available from the College of Medicine to assist students in these programs. Information and support may also be obtained from the Medical Student Council and the Student American Medical Association.



CALENDAR

1969 FALL QUARTER

Quarter beings, all students	. September 29, Monday
Thanksgiving Day	. November 27, Thursday
Quarter ends, preclinical students	. December 13, Saturday
Quarter ends, clinical students	. December 20, Saturday

1970 WINTER QUARTER

-Quarter	begins,	all	student	S	 	 . Januar	y 5,	Monday	
Quarter	ends				 	 . March	21,	Saturday	y

1970 SPRING QUARTER

Quarter begins, clinical students	. March 23, Monday
Quarter begins, preclinical students	. March 30, Monday
Memorial Day holidays	. May 29, 30, Friday and Saturday
Commencement exercises	. June 12. Friday

1970 SUMMER QUARTER

Quarter begins, clinical students	June 22, Monday
Independence Day holidays	July 3, 4, Friday and Saturday
Quarter ends	. September 5, Saturday

1970 FALL QUARTER

Quarter begins, all studentsSeptember 28, M	Monday
Thanksgiving DayNovember 26, T	hursday
Quarter ends, preclinical studentsDecember 12, S	aturday
Quarter ends, clinical studentsDecember 19, S.	aturday

1971 WINTER QUARTER

Quarter begins, all studentsJanuary 4, Monday	7
Quarter ends March 20, Saturda	y

1971 SPRING QUARTER

Quarter begins, clinical studentsMarch 22, Monday
Quarter begins, preclinical studentsMarch 29, Monday
Memorial Day holidaysMay 30, 31, Sunday and Monday
Commencement Exercises June 11, Friday

1971 SUMMER QUARTER

Quarter begins, clinical students	June 21, Monday
Independence Day holidays	July 4, 5, Sunday and Monday
Quarter ends	September 4, Saturday

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FOR FURTHER INFORMATION

About admission to the College of Medicine, write or talk to the Director of Admissions and Records, University of Illinois at the Medical Center, 1853 West Polk Street, Chicago (mailing address: P.O. Box 6998, Chicago, Illinois 60680).

About matters of finance, loan funds, part-time employment, parking permits, or other questions involving student welfare and campus life, write or talk to the Dean of Student Affairs at the Medical Center, 1853 West Polk Street, Chicago (mailing address: P.O. Box 6998, Chicago, Illinois 60680).

About matters relating to housing, write or call the Office of the Director of Housing at the Medical Center, 818 South Wolcott Avenue, Chicago (mailing address: P.O. Box 6998, Chicago, Illinois 60680).

About the Graduate College at the Medical Center, write or talk with the Dean of the Graduate College at the Medical Center, 1853 West Polk Street, Chicago (mailing address: P.O. Box 6998, Chicago, Illinois 60680).

About the James Scholar Program for Independent Study in the College of Medicine, write or talk with the Director of the Program, 1853 West Polk Street, Chicago (mailing address: P.O. Box 6998, Chicago, Illinois 60680).

About matters especially relating to the Chicago Circle Campus, write or talk to the Director of Admissions and Records, University of Illinois at Chicago Circle, P.O. Box 4348, Chicago, Illinois 60680.

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